Notebook for the XVIIIth

Maya Hieroglyphic Workshop

March 12-13, 1994

Department of Art and Art History, the College of Fine Arts, the Center for Mexican Studies, and the Institute of the Latin American Studies

Notebook for the XVIIIth

Maya Hieroglyphic Workshop at Texas

by
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edited by Timothy Albright

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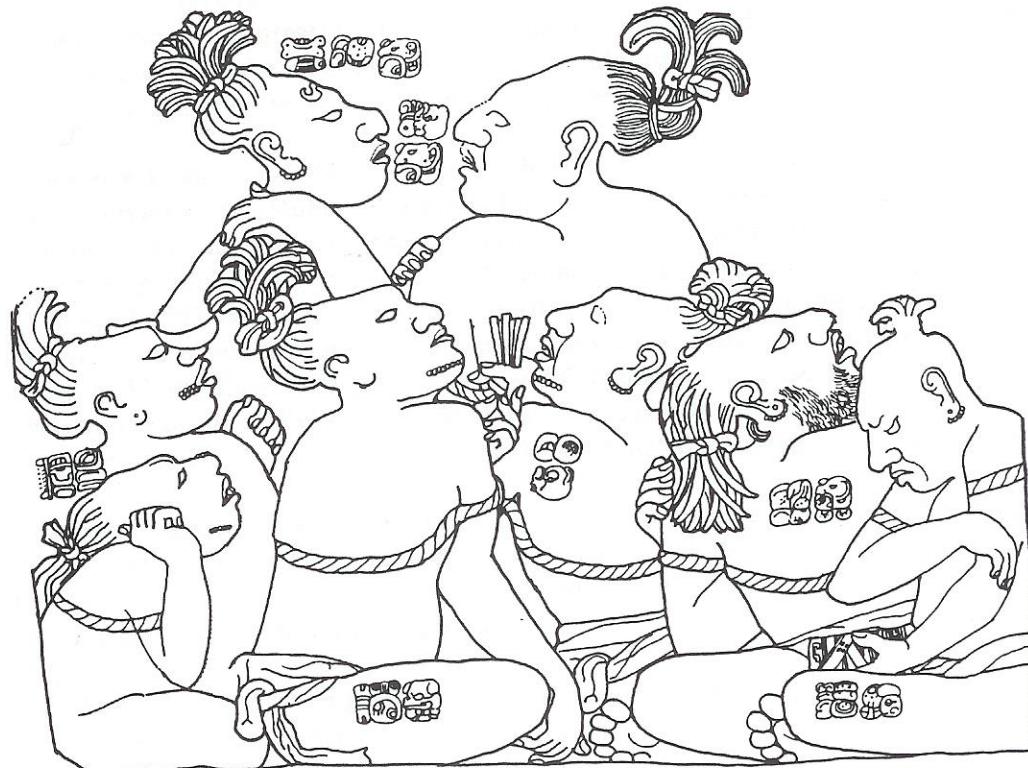
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Origins of the Writing System

The Lowland Maya did not invent writing in Mesoamerica; rather, they inherited the idea of writing from an earlier cultural period between 600 B.C. and A.D. 50. The earliest examples of Maya glyphs with known values and from known archaeological contexts in the Maya Lowlands, appear at the site of Cerros in Northern Belize at 50 B.C. Three signs, *ahaw* "lord," *k'in* "sun," and *yax* "first," occur in iconographic contexts which confirm their readings to be the same as those deciphered in Classic texts. Other undated texts from this Late Preclassic period show consistency in graphic configuration and formatting with later texts, placing the beginnings of the Classic Maya writing system in the period from 200 B.C. to 50 A.D.

The earliest readable text is found on a reused Olmec jade in the collection of Dumbarton Oaks; it can be dated stylistically as approximately contemporary to the Cerros examples. The Dumbarton Oaks jade has no date, but like others texts of its type, it is organized in a left-to-right format in double columns reading top to bottom, and glyph blocks include both main signs and affixes. In his 1966 commentary on this text, Mike Coe noticed that the bird-head and crossed-bands signs behind the figure's head also occurs twice in the text at B6, where the crossed-bands shape overlays the

ahaw

Morningstar   sky frame

yax   k'in   horizon
"first"   "sun"   Rising Sun
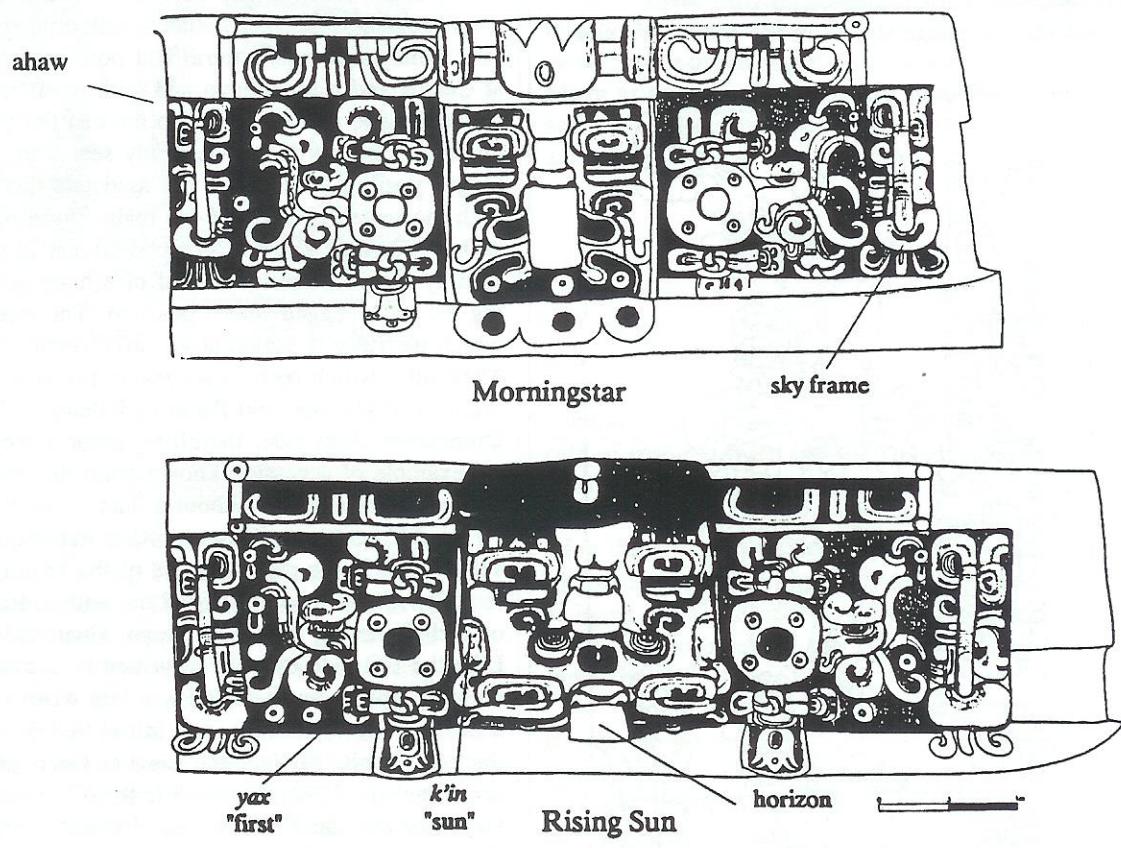
Cerros Masks from Structure 5C-2nd

Muan name

Muan name

Dumbarton Oaks jade, the rear text

eye of the bird, and at C2-B2, where the crossed-bands and bird signs occupy different blocks. He proposed that this Crossed-bands/Bird glyph named the personage shown in the scene. We can
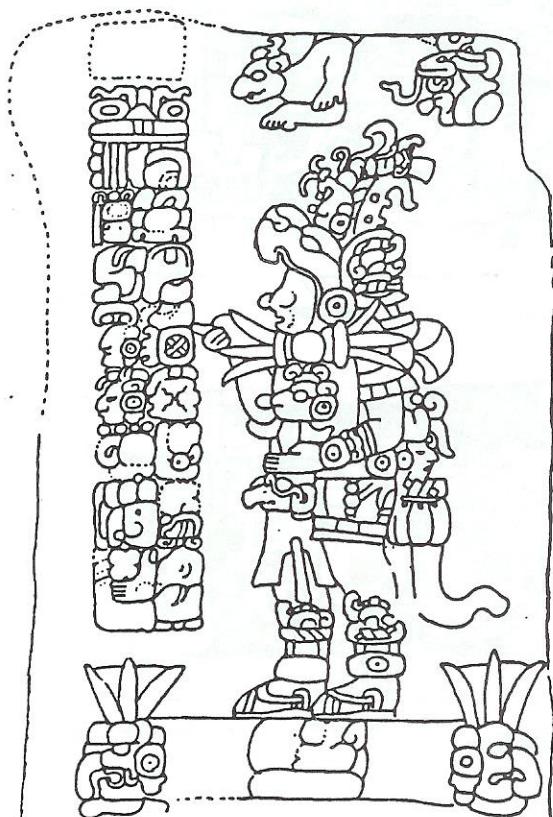
San Diego Cliff drawing

assume that this person is a ruler because he is seated in the cross-legged position of the elite and wears regalia directly associated with contemporary symbols of supernatural and political power at Cerros and Kaminaljuyu and with royal regalia of the Classic period. Coe also noticed that the glyph at A5 records a lower body seated in cross legged position, but he did not associate this glyph with the seated position of the main figure nor with T700, now known to record the act of accession by showing the lower half of a body assuming the cross-legged seated position. The title into which the ruler is seated is an early version of the T518 title, which records accession for Smoking-Squirrel of Naranjo and Pakal of Palenque. The Dumbarton Oaks jade, therefore, records the earliest example of accession known from the Maya corpus, unfortunately without a date in the text.

Two different texts illustrate other important developments in the earlier stages of the writing system. Ian Graham has provided me with a drawing of a cliff carving from San Diego, Guatemala. Like the DO jade the text is written in a double column format, but it includes a date written with a tzolk'in (now missing), and Initial Series Introductory Glyph, 18 Yax, the Lord of the Night, and Glyph F. 1992: The verb is the T757 auxiliary verb and the T712 *ch'am*, "harvest," verb. The emblem glyph is that of Yaxha, so that we know now that kingdom existed in the Late Preclassic-Early Classic juncture.

them have dates with the ISIG, tzolk'in, and haab in unorthodox orders.

The fact that ISIG glyphs occur without Long Count dates in both examples suggests that the Long Count and the final format used with dates in the Classic period were not in place in the Late Preclassic period. Furthermore, this early format of the ISIG with a calendar round date, but without a long count notation was used on Tikal Stela 4 a hundred years later, perhaps as a deliberate recall of earlier forms. Since the Long Count is absent and the date format violates the Classic canon in these early texts, it seems likely that the Long Count was borrowed along with the stela format from Maya speaking groups in the Highlands where the Long Count seems to have a longer history and usage. It should also be noted that the earliest examples of writing in the lowland area have been found in association with the dramatic growth of monumental public works and that the events recorded concern public rites and the legitimization of royal office. It seems that writing became an important social tool for the lowland Maya as they developed highly stratified society and the religious and political foundations for its existence.

Reading Order

Maya texts are written in a right-angled grid that, in general, reads left to right and top to bottom in columns of two. Each pair of columns is read its entire length, followed by the next pair of columns, and so on. Exceptions to this general rule of reading order are known, especially in texts on lintels and small portable items, but unusual reading orders are easily detectable by examining the order of numbers in calendric phrases, by looking for known phrases or structures, such as name phrases or titles, or by comparing unusual texts to others of the same kind or at the same site.

The reading order of individual components within any one glyph block (one section of the grid) usually follows the same reading order as the full text, that is left to right and top to bottom. Single unit glyphs are usually logographs representing whole words. Multiple component glyphs may also represent one word, but one containing affixes or additional grammatical parts. The function

Hauberg Stela

The same verb and unusual calendric format recurs on the Hauberg Stela, a miniature stela of unknown provenience. The date is recorded as ISIG, 12 Xul, G5, unknown, 17C, and 3 Ahaw. The verb read *yax ch'am tu ch'ul*, "first harvesting of his soul-stuff." It is probably the protagonist's first bloodletting before his accession. The first clause is followed by a distance number of 52 days and the same T518 accession event that appears on the DO Jade. Thus the three earliest texts now known record accession events with the T518 title and blood-letting with the T712 glyph, and two of

of the various affixes differ and all are not yet understood. Some, for instance, represent grammatical parts such as person markers and articles, while others function as derivational or inflectional affixes. Reading order of the affixes is fairly simple; those above or in front of the larger main signs are read first with a left to right preference. Affixes below or behind are read after main signs, again with a left to right preference, although in both situations reading order can be altered by size considerations. If there are two affixed signs, the one occupying the entire border is read first if it is in front or above the main sign, and last if it is below or behind.

A single glyph block can contain more than one word, but when multiple words are combined, they are usually recognized phrases. Often, word or "expression" boundaries are indicated by some graphic convention, such as depth of carving or regular alignment within a secondary grid.

The Maya often used phrases containing more than one word, and they could arrange these phrases in many different ways without altering the reading of the phrase. One of the most frequently used phrases was that of the "tun seating," consisting of a sign for "seating" and a sign for "tun" (a year of 360 days). In example 1, this phrase is written with each logograph occupying an independent glyph block. In example 2, the logographs are combined into a **compound** glyph in which both signs appear in one block with the distinct contours of each retained. In a compound glyph, the left sign is often **suppressed**, or drawn

as if it is partially behind the other sign. In example 3, the *tun* glyph is placed within the "seating" glyph by **infixing** it, but as with the compound glyph, the contours of both signs are retained. In example 4, the distinct features of both graphemes are placed within a single contour. This merging of two distinct signs into one is known as a **conflation.**

Any one of these arrangements can occur in any text and more than one can be used in a single text. The choice of arrangement seems to have depended to some degree on the amount of space available to the scribe. In addition, most glyphs can occur in any of these arrangements in either abstract (or geometric) form or in personified form, which in turn can be either anthropomorphic or zoomorphic, and in head or full figure form. One of the most difficult tasks of decipherment is to determine those features which differentiate one glyph from another and those features which are merely variation in style or arrangement, but not characteristic of a different sign.

The Writing System and How it Works

Today the majority of working epigraphers agree that the Maya hieroglyphic writing system was a phonetic system that contained signs representing whole words and signs representing the sounds of syllables, usually in the form of a consonant and vowel. Some of the word signs were pictographic, that is they pictured the object recorded. A good example of this kind of sign is the use of a jaguar head to represent the word *balam* "jaguar". Since the nineteenth century, however, there has been vigorous and often bitter debate about the presence and number of signs that represent phonetic units without a reference to meaning. The debate has

been resolved today and to the surprise of many of us who began working in the seventies, the writing system is far more phonetic than we ever imagined.

Proskouriakoff and Berlin never accepted phoneticism at all, but they pioneered a structural approach that requires no assumptions about the nature and languages of the writing system. Their approach utilized comparative analyses of glyphs and phrases within the full corpus of texts, and within the context of established knowledge about the Maya calendar and arithmetic system. The inscriptions were studied with the assumption that the contents were largely historical, and great attention was given to the careful study of the relationship of glyphs and phrases to the scenes which accompany them. Readings in the original language of the inscriptions were suggested rarely and with extraordinary caution, and all assignments of meaning were made in the working language of the scholar, not in Maya (except where the field had traditionally used Maya terms as jargon). This "historical" method is today the most widely applied and accepted approach, and it remains the foundation of the syntactical and phonetic methodologies that we teach in the Texas meetings.

Today's approach starts with the methodology pioneered by Proskouriakoff and Berlin, but we go beyond it to propose "readings" of particular glyphs in the Maya languages. In our studies, we use information from linguistics about the syntax, morphology, and grammar of Mayan languages, and we try to deal with the larger structure of the clause to generate "paraphrased" interpretations, rather than to concentrate on individual glyphs. Kathryn Josserand has elaborated this basic approach into "discourse analysis" in which the entire text is studied for larger patterns of information presentation and intent. The Maya writing system fully realized spoken language and could record every nuance of sound, grammar, syntax, and literary convention that the Maya required.

The writing systems has the following kinds of signs:

1. A **logograph** is the sign which represents the sound and meaning of a whole word. A pictograph, which is the iconic representation of an object, is a kind of logograph. There are a great many logographs in the Maya Corpus, including, among others, representations of animals, various kinds of objects from costume and environment, and supernaturals.

2. A **rebus** sign is sign that represents the sound of one word by using another that has the same sound. Rebus signs are very rare. In fact only one has been clearly demonstrated. John Justeson ("An interpretation of the Classic Maya hieroglyphic spelling of 'east'.") has shown that the word for "plate," *lak* was used in the "east" glyph to record *lak*, "next." Perhaps rebus signs are rare, because they can introduce ambiguity into the writing system. Because such rebus signs are polyvalent, they have multiple values which are not distinguishable except from the context. Are you to understand "plate sun" or "east" when you read the east glyph? Another problem with pictographs and rebus signs is that one sign can often have more than one potential reading. For example, there are two words for "shield" *chimal* and *pakal* in the Mayan languages; which word does the pictograph of a shield represent? In a system using rebus and logographic signs, any one sign can have only one sound, but multiple meanings. Or, the sign can have only one meaning, but multiple sound values. It can also contain both possibilities.

Ambiguity is reduced by two other kinds of signs (The terms were coined by Floyd Lounsbury after usages in cuneiform):

3. A **semantic determinative** is a sign used to tell the reader to use only one of several potential meanings. For example, suppose we were to use a picture of a "can" to stand as a rebus for the verb "can." Anyone trying to read such a system would know the sound for the sign is "can," but does the sign mean "can (container)" or "can (to be able)." We can distinguish these two meanings by showing a food label on the sign when it is to mean "can (container)," and letting the blank can represent "can (to be able)." The food label is a semantic determinative for the "can (container)" sign. There are two frequently used semantic determinatives used in the Maya writing system: the day sign cartouche that selects for the value as a day name in contrast to the phonetic values of the same signs, and the *ahaw* scarf that marks heads of all sorts as the title for "lord."

4. A **phonetic complement** is a sign used to indicate a particular pronunciation when the sign has

more than one possible sound value. Suppose we were to use the head of a cat in a pictographic system writing English. Potential readings for the head are "cat," "jaguar," "kitty," "pussy," "kitten," "panther," etc. By attaching a sign to the front of the head recording that the first sound of the word is CA, the reader would know that only the sound "cat" is appropriate to the reading. This is a phonetic complement. The syllabic signs used as complement also function in syllabic spellings of words by combining CV signs.

How Semantic Determinatives and Phonetic Complements Work

The Vultures

The use of semantic determinatives and phonetic complements in the writing system are most humorously demonstrated in the use of the vulture glyph in the Classic inscriptions. There are many terms for "vulture" in the Mayan languages, including *k'uch*, *ch'om*, *xulem*, *k'utz*, and *ta'hol*; since any of these might be a legitimate reading
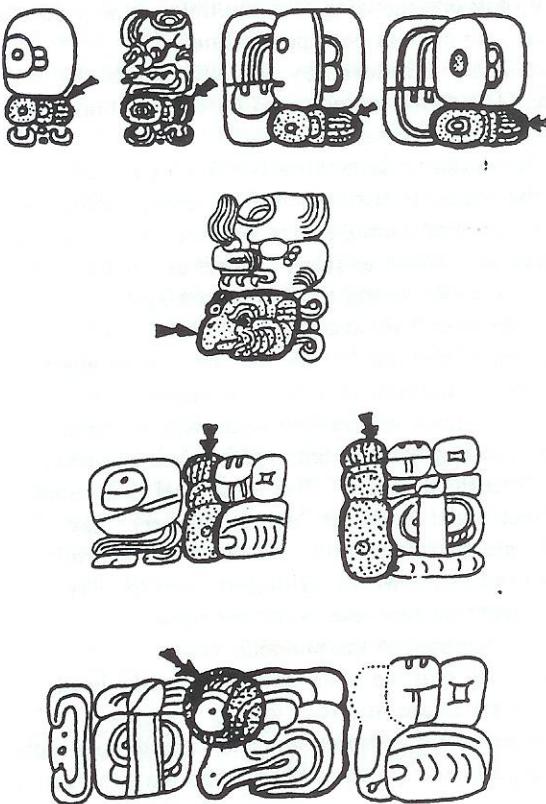
for the "vulture" glyph, the reader cannot know from the glyph alone which is intended.

One of the most frequent uses of this vulture sign is as a substitute for the locative *ti* in the Anterior and Posterior Date Indicators and in the T684 and T644 accession expressions.

The use of the vulture head for the *ti* locative is based on the Chol term for the gray headed vulture *ta'hol*, literally "shit-head" (*ta'* "excrement" and *hol* "head"). The scribes use the *ta'* part of the word to stand for the locative (*ti*, *ta*, or *tä*, depending on the language). In this context, it is important to know that one should not use one of the words listed above and that "vulture" as a meaning has, in fact, nothing to do with how the sign reads. To ensure the correct phonetic value is read, a small *ti* sign is attached to the forehead of the vulture as a **phonetic complement**.

By comparing many T684 and T644 expressions for accession, it can be seen that another "vulture" sign can appear in addition to the *ti* vulture, but here the reading is very different. In these expressions, a verb, T684 or T644, is followed by a prepositional phrase, consisting of a preposition (usually *ti* or *ta*), a title, and the phonetic glyph *le*

hok'   ti   ahaw   le
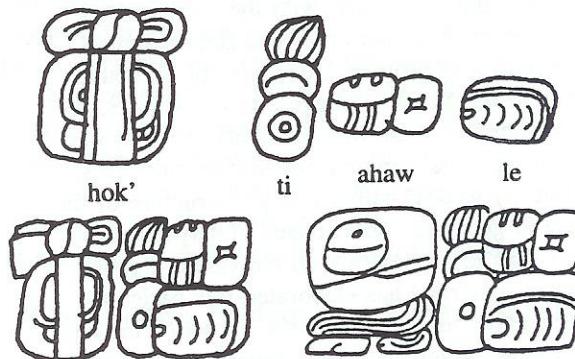
hok' ti ahawle   chumwan ti ahawle

(the allograph of Landa's *le* sign)

In many of these expressions, the title in the prepositional phrase is T168, read by Lounsbury as *ahpo* or *ahaw*, both terms for "lord." However, other titles can appear in this position, including T533 *ahaw* as well as the *vulture* sign. In this context, however, the vulture appears without a *ti* sign attached to its head; rather, it wears a headdress scarf with an *ahaw* sign attached to the front. This same scarf is used with the T1000e

variant of *ahaw*, a young male head, normally read as *xib*. Furthermore, the scarf appears to change any sign, including the rodent head into versions of *ahaw*; it is a **semantic determinative**

obligating a meaning of "lord."

The origin of this scarf as a semantic determinative for *ahaw* has been traced to Late Preclassic objects in the Dumbarton Oaks collection and from Structure 5C-2nd at Cerros and Burial 85 at Tikal. All three objects show a lord or a supernatural wearing a headband marked with a tri-pointed
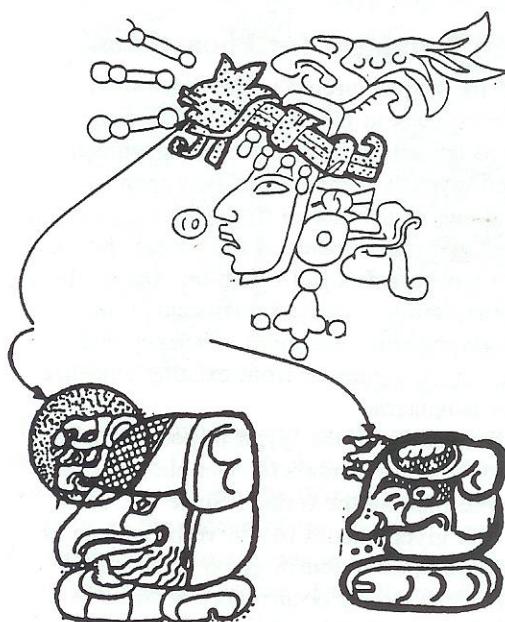
shape. On the Dumbarton Oaks jade, this shape appears in a personified form that can be associated with the Jester God of the Classic period. A number of *ahaw* personifications occur with the Jester God replacing T533 *ahaw* as the symbol attached

to the scarf. Furthermore, on Bonampak' Sculptural Panel 1, the act of being "seated on the jaguar throne in reign" is shown as the giving of this Jester God scarf to the incumbent ruler. To wear the scarf is to be the ruler; it is the most ancient Maya crown, and as such, it was used as the semantic determinative for *ahaw*.

Variants of the *ahaw* glyph can include phonetic complements as well as semantic determinatives. In the contexts of titles and Emblem Glyphs, *ahaw* as vulture or human occurs frequently with T130 - *wa* as a final phonetic sign designating the final
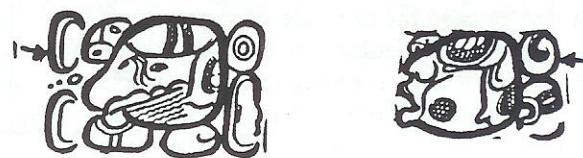
sound of the glyph. There are also a number of examples in which *ahaw* appears with a prefixed *a* as well as the *wa* suffix, spelling the word in full as well as writing it as a logograph.

The use of the scarf as a semantic determinative for *ahaw* is not confined to the accession expressions, but any of the variants discussed above can appear as *ahaw* in any context.

Phoneticism

The question of the amount and kind of phoneticism in the Maya writing system has been the subject of a long and often bitter debate. Dave Kelley's book *Deciphering the Maya Script* and his article on "The History of Decipherment" recount the full history of these debates and the positions of their participants. To me, the question of phoneticism is no longer an issue; new readings have been consistently generated and tested many times and by scholars without vested interests in the debate. And although Thompson never accepted phoneticism, he did believe in the existence of rebus signs, a function in which a glyph is used for its phonetic value without reference to meaning.

The fiercest debate has centered on the work of Yuri Knorozov, who proposed a system of phonetic usage in which CVC (consonant-vowel-consonant) words are written with a combination of two CV signs in the form CV-C(V) with the final

vowel silent. He also proposed, in the principle of synharmony, that the second vowel in a CV-C(V) must echo or repeat the first whenever possible. The reaction of Maya scholars (with the exception of Dave Kelley, Mike Coe, and Floyd Lounsbury) to Knorozov's proposals was negative, partially, I think, because of the times. However, I also think that because Knorosov tried to decipher the entire writing system in one work, he proposed a large number of unsupportable readings; he gave his detractors a lot of ammunition.

In articles critical of phoneticism, it was often pointed out that Knorozov himself proposed readings that violated his principle of synharmony. These anomalous readings included *mut(i)*, *kuch(i)* and *pach(i)*, which according to the "principle of synharmony" ought to be written *mu-t(u)*, *ku-ch(u)*, and *pa-ch(a)* as they occur in the inscriptions

In one of the early workshops, after I explained these exceptions in a discussion of phoneticism, Brian Stross to my delight pointed out that in

mu-t(i)   ku-ch(i)   pa-ch(i)
as they occur in the inscriptions
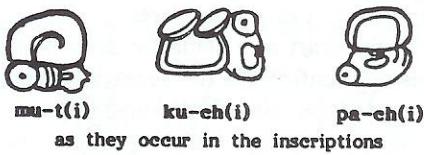
some Mayan languages, the terminal echo vowel rises after an alveolar stopMDSU1, such as the consonants T and CH. In other words, these unusual phonetic combinations match precisely a morphophonetic shift documented in the spoken language, and are, therefore, predictable in the written language. The exception has become proof of the rule. During the last fifteen years, more epigraphers have taken Knorozov's work seriously and accumulated a growing number of decipherments, demonstrating that, at least in principle, Knorozov was right. In his dissertation, John Justeson, for example, compared the Maya writing to similar writing systems elsewhere in the world and found many of the anomalies that had been used to disprove Knorozov's suppositions are to be expected in this kind of writing. Recently, Steve Houston proposed a *to-k'(a)* reading and his argument seems very good. In general, the "principle of synharmony" has provided a good working start on

phonetic decipherment, but it is only a principle, not an inviolate rule.

In the later workshops, I have not felt it necessary to present proofs of phoneticism or "synharmony," because abundant evidence of the usefulness of this approach has been published. To me, the existence of phoneticism is no longer a question of debate. However, those of you who are new to the study of glyphs will find the literature overburdened with arguments disproving phoneticism, and it is often difficult to argue with the "experts," especially in a baffling field. The following pages are designed to be read and will not be repeated in the lecture section of the workshop. The particular approach taken to phoneticism results from an interview given in 1980 by Peter Mathews and me to an editor from the LA Times. We were asked the inevitable question about the "Russian and phoneticism." I answered with bombast, and after Peter got my attention, he delivered an elegant argument upon which I cannot improve. I offer that argument here, but in my words, not his. If the argument is unconvincing to you, it is my insufficiency, not his.

The Argument for Phoneticism

Each of the glyphs circled in the illustration above corresponds to the object marked in the scene or to the action shown. In each example, the circled glyph is composed of two or more signs, and one or another of these signs appears in the circled glyph in another of the scenes, but referring to a different object or action. Our problem is to explain why these signs occur in these different glyphs with maximum efficiency and in a way that can be supported from existing evidence in Mayan languages.

In the first example, the glyph in position 2 corresponds to part of Landa's *le* example and refers to the noose binding the turkey. Since we know that the first glyph should be the verb, we can assume that the third or fourth glyph refers to the turkey. A check of the occurrences of these two glyphs elsewhere identifies the fourth as an "attributive" and the third with pictures of turkeys. The glyph for turkey is, therefore, composed of two signs, the first of which corresponds to Landa's *ku* sign.

An alveolar stop is a consonant sound produced by using the ridge behind and above the front teeth.
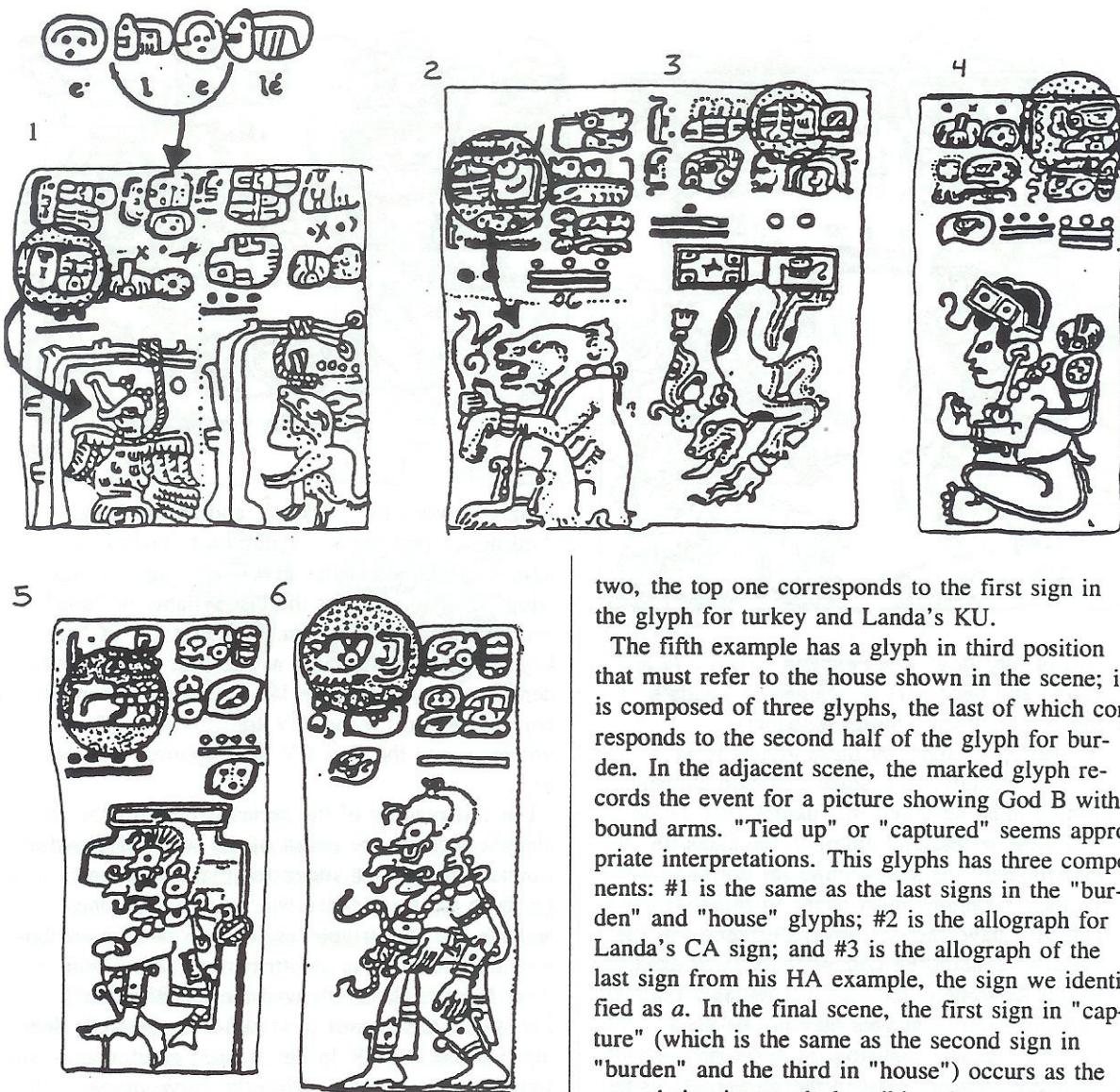
In the second pair of scenes, the marked glyphs stand for "dog." This glyph is again composed of two signs. Notice that the first of these signs is the same as the second of the "turkey" signs, and the second sign corresponds to Landa's *lu* glyph.

The next example is one of the "burden" scenes. Glyph 1 refers to the object carried, in this case a *yax-k'an* glyph, and glyph 3 to the person who carries the burden. Glyph 2 is the possessed noun that ought to read "her burden." It is composed of three signs, including one of the possessive pronouns prefixed to the other two. Of the remaining two, the top one corresponds to the first sign in the glyph for turkey and Landa's KU.

The fifth example has a glyph in third position that must refer to the house shown in the scene; it is composed of three glyphs, the last of which corresponds to the second half of the glyph for burden. In the adjacent scene, the marked glyph records the event for a picture showing God B with bound arms. "Tied up" or "captured" seems appropriate interpretations. This glyphs has three components: #1 is the same as the last signs in the "burden" and "house" glyphs; #2 is the allograph for Landa's CA sign; and #3 is the allograph of the last sign from his HA example, the sign we identified as *a*. In the final scene, the first sign in "capture" (which is the same as the second sign in "burden" and the third in "house") occurs as the second sign in a verb describing the act of sitting across from someone.

As I discussed in a previous section, any glyph may function as a logograph, semantic determinative, or phonetic sign; each of these possibilities must be tested. If these signs are logographs, then we must find some term for "turkey" that shares its second word with an expression for dog; for example, we must find something like "turkey-dog" as a term for a kind of "dog." But at the same time we must find an expression for "turkey" that shares its first word with an expression for "capture" that shares its second word with an expression for "house" that has the same first word as an "expression for "capture." Furthermore, the sec-

ond part of the "dog" must explain Landa's *lu* and the second and third part of "capture," Landa's CA and A signs (see Landa's alphabet).

If the sharing of signs by these glyphs is explained semantically, then some common element of meaning must be found in Yukatek that would unite all these terms, and although the signs do not have to share the same sound (as do logographs), their meanings must occur in exactly the relationship I have shown above. Furthermore, the logic used to explain the commonality must exist in Yukatek or some other Mayan language; the logic of European languages may not be used. What seems "natural" and logical to us may not and probably does not exist in the same patterns in Mayan languages.

In testing these patterns as logographs or as semantic determinatives, it quickly becomes evident that the set of terms do not share any common semantic properties in Yukatek that would explain the sharing of graphic components. If, on the other hand, the third approach is taken --that the shared signs represent shared sounds without reference to meaning-- the shared graphic components are efficiently and economically explained. All of the terms appear in the Motul and Pio Perez dictionaries and are Yukatekan words for the objects and events previously identified from the scenes.
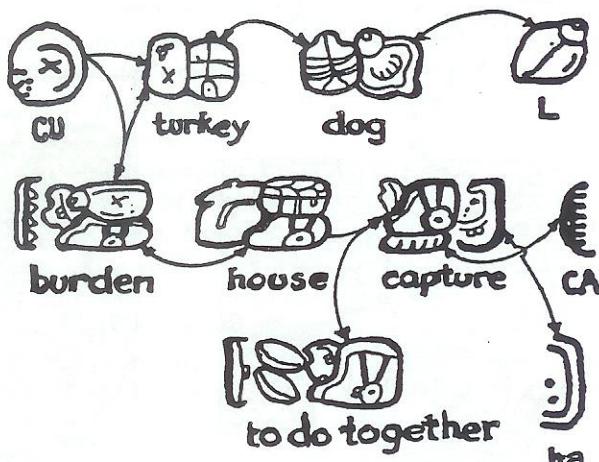
Kutz is a word for "turkey", and *tzul* is "dog." And notice that the last syllable of "turkey" *ku-tz(u)* corresponds to the first CV component for "dog" *tzu-l(u)* and that the last syllable of "dog" corresponds to Landa's *lu*. The first CV of "turkey" *ku-tz(u)* is the same as the first CV of "burden" *ku-ch(u)*, while the last syllable of "burden" corresponds to the last CV for "his house," *otoch(u)*, and the first CV of "captured" *chu-ka-ah*.

The last reading of the series is perhaps the most elegant and was the result of the work of Floyd Lounsbury. He had suggested that the second glyph in the text as *hax bul*, a term for "dice," and the last four glyphs as Itzamna plus an attributive and God E plus an attributive. [*1991 addition*: Nikolai Grube showed me in 1987 that Floyd's *hax-bul* reads instead *hol* or "head."] Seeing that the last CV in the marked glyph corresponds to the *chu* sign from the *kuch*, *otoch*, and *chukah* glyphs, he reasoned that there ought to be some verb, ending in *ch* and with an internal vowel of *u* (because of the principle of synharmony) that would make sense in these contexts. This time he was lucky, because he found *nuch*, a verb meaning "to work together." Itzamna and God E are "working together" with their heads together, exactly like they are shown in the scene. He also tested the first sign as *nu* and found confirmation in a number of readings in the Dresden and Madrid codices.

A second set of examples further illustrates the pattern of connections explained by phoneticism.

west

west

deer

quetzal

vulture

Landa
K
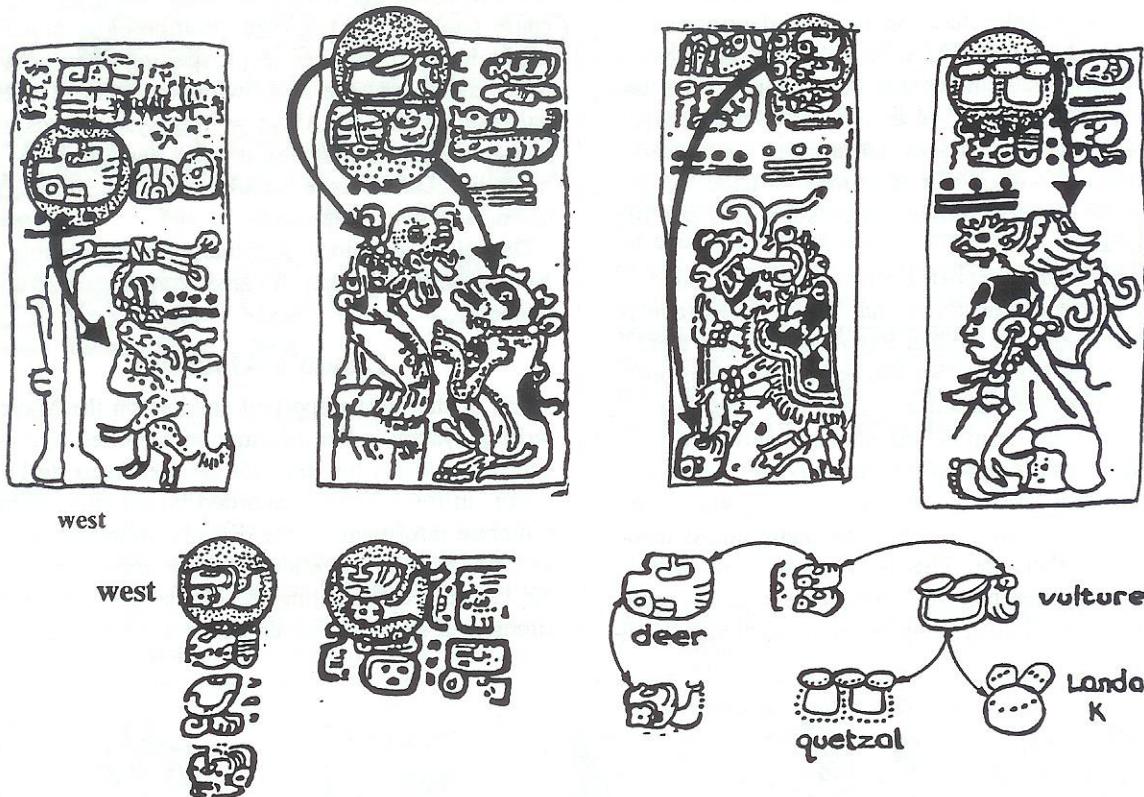
The marked set of glyphs in the scene above exhibit the following network of substitutions:

(1) A glyph for "deer" is the same as the second sign in a glyph for "vulture" and the first sign in a term for "west."

(2) This same sign when doubled is the second glyph (a possessed noun) in a scene of fire drilling. The verb for "fire-drilling" is the same as *ho* [now known to read *hoch'*] in the *nuch hol* scene above.

(3) In reduplicated form, the first sign in the "vulture" glyph above stands for a crested bird known to represent a quetzal. It is also the allograph for Landa's *ku* sign.

As in the previous set of examples, an explanation of this set of correspondences based on logographic or semantic readings does not work. However, when evaluated as phonetic signs, the correspondences make sense.

(1) *Chiih* is a Cholan word for "deer"; the sign originated apparently in a Cholan language and was used by Yukateks as a logograph for deer and as a phonetic *chi* sign. *K'u-ch(i)* is a Yukatek term for "vulture" (the *chi* sign is acceptable in *k'uch* because CH is an alveolar stop). *Chi-k'in* is the Yukatek term for "west."

(2) *Hoch'* is a term for "drilling fire," but it literally means "the action of rolling flattened hands against each other," the action used both in drilling fire with a stick and in casting dice. *Chich* means "the theme of a sermon" or "prognostication." The fire-drilling scene is used as a rebus for the "act of casting a prognostication."

(3) Reduplicated, the *k'u* sign from *k'u-ch(i)* reads *k'u-k'(u)*, the Yukatek word for quetzal. Both uses of the sign are compatible with its appearance as Landa's *k'u* sign.

The Principle of Substitution

In 1973, when Peter Mathews and I began our careers studying under Floyd Lounsbury, we learned the principle of substitution as the pivotal principle of investigations. First demonstrated by Thompson in 1944 ("The Fish as a Maya Symbol for Counting." *Theoretical Approaches to Problems No.2*. Cambridge: Carnegie Institution of

Washington, Division of Historical Research), this principle uses structural analysis to identify contexts in which different signs substitute into the same position. If the context is the same, then the signs can be taken to be equivalent in some way. We were taught that you can presume how the equivalency works, that is, it may be phonetic or semantic, but you should not presume it is one or the other.

David Stuart, Stephen Houston, and Nikolai Grube have demonstrated that the last constraint is counterproductive. When Peter and I found these substitution patterns, we tended to wait for proof of which kind of substitution we had. They presumed the substitution was phonetic and as a result they have extended enormously the inventory of known syllables. I now accept as working principle that a substitution set is phonetic unless demonstrated otherwise. That is, you can begin with the presumption that you have signs with the same sound value. Synharmony becomes particularly im-

portant within the context of substitution sets because knowing the CV configuration of a known sign within a particular glyph spelling often points to the syllable in the unknown component. The final result is that the Maya writing system ends up being even more phonetic that the early proponents like David Kelley, Mike Coe, and Floyd Lounsbury ever suspected.

The initial inventory of syllabic signs available to Knorosov in his research came from Landa's "alphabet."

Landa's Alphabet

One of the most important sources on the Maya writing system is the information recorded by Diego de Landa in his *Relación de las Cosas de Yucatan*. In this work he recorded information from a literate informant on the day and month signs and the cycle of the k'atuns which proved to be the key to reconstructing the Maya calendric and arithmetical systems. Landa also recorded what he

Pop   Uo   Zip   Zotz'   Tzec

Xul   Yaxkin   Mol   Ch'en   Yax

Zac   Ceh   Mac   Kankin   Muan

Pax   Kayab   Cumhu   Landa's Month Signs

Uayeb (not from Landa)

Landa's Day Signs

thought was an "alphabet," never considering that there might be a different kind of writing system than the alphabetic one he knew. The miscommunication between Landa and his baffled informant resulted in a controversy that has raged ever since the "alphabet" was rediscovered in 1877. Fortunately, Landa described the exact method by which he elicited his "alphabet," and in this description we can identify the misunderstanding that caused the problem. Landa described the elicitation as follows:

Landa told his informant, Gaspar Antonio Chi, that he wanted to know how to spell the word *le*, carefully explaining to the baffled Maya that the word *le* has two letters. The informant either did not understand Landa or gave up trying to explain that he did not write in letters, for he reproduced in Maya syllabic signs exactly the sounds said to him by Landa, who specifically says that he "made them understand that there are two letters."
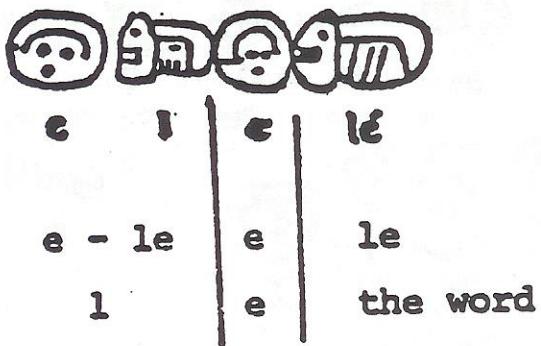
Of their letters I will give here an A, B, C,[891] since their ponderousness does not allow anything more; for they use one character for all the aspirations of their letters and afterwards another for joining the parts together, and thus they go on doing *ad infinitum*, as can be seen in the following example: *Le* means a noose and to hunt with it; in order to write it with their characters, we having made them understand that there are two letters, they wrote it with three, putting as an aspiration of the *l*, the vowel, *e*, which it has before it; and in this way they are not mistaken, even though they should be employed[892] in their skilful device, if they wish to. For example

Then they add at the end, the part which is joined. *Ha* means water, and, because the sound of the letter H has *a h*, in front of it, they write it at the beginning with *a* and at the end in this way,

They also wrote it in parts, but

in both ways. I should not place it here nor should I treat it, except to give a full account of the affairs of this people. *Mainkati* means "I do not wish"; they write it in parts in this way:

The letter L is pronounced "a-lay" and the letter E is pronounced "a" in Spanish. Landa told his informant to spell "alay-a *le*" and the informant exactly reproduced these sounds, ignoring or ignorant of the fact that the first three syllables were the sounds of the letters "L-E" in Spanish.

The second example was even more confusing to both men. Landa asked his informant to spell *ha* with two letters, pronounced "ahchay" and "ah" in Spanish. This time Chi spelled the sound of the

letter ahchay and then he simply wrote the word for "water" as he would have in his own syllabic system--ha.

Landa tried to explain the confusion by describing the signs as coming from the letter H which "has a h, in front of it, they write it at the beginning with a and at the end in this way." However,

a	che	a
h		a

by comparing the signs under which he wrote "a" to his alphabet, it is clear that they "spell" the sound of the Spanish letter H; they are the syllabic signs a and che. The third sign is the sound of the letter A; the informer recorded the sounds of the Spanish letters. Landa expected the word ha, the alphabetic spelling of which he put under the

sound a, not having found ha in the signs written by Gaspar Chi.

Both men must have reached a complete state of confusion by this time because Landa apparently asked the informant to write something without any prior instruction as to how to spell it. The words written by Gaspar Chi made no sense to me until the 1982 Workshop when Kathryn Josserand and Nicholas Hopkins pointed out to me that Gaspar Chi wrote in a wonderful expression of his frustration "I don't want to" or in the vernacular "I don't wanna."

These three examples along with the reproduction of the sounds of the Spanish alphabet, not only provide us with a repertoire of known values, but they provide valuable information about the nature of the writing system. In the ma in k'at(i) ex-

ma	in	kat(i)
negative	I	want

ah,ae   ah   ah   be,bi   be   ze   e   che

i   ca   k'a   le   lu   n,ni   o   cu

k'u   xe   u   ah   ma   ti   po   pa

uo   lo   mo   ki   wa   k'u
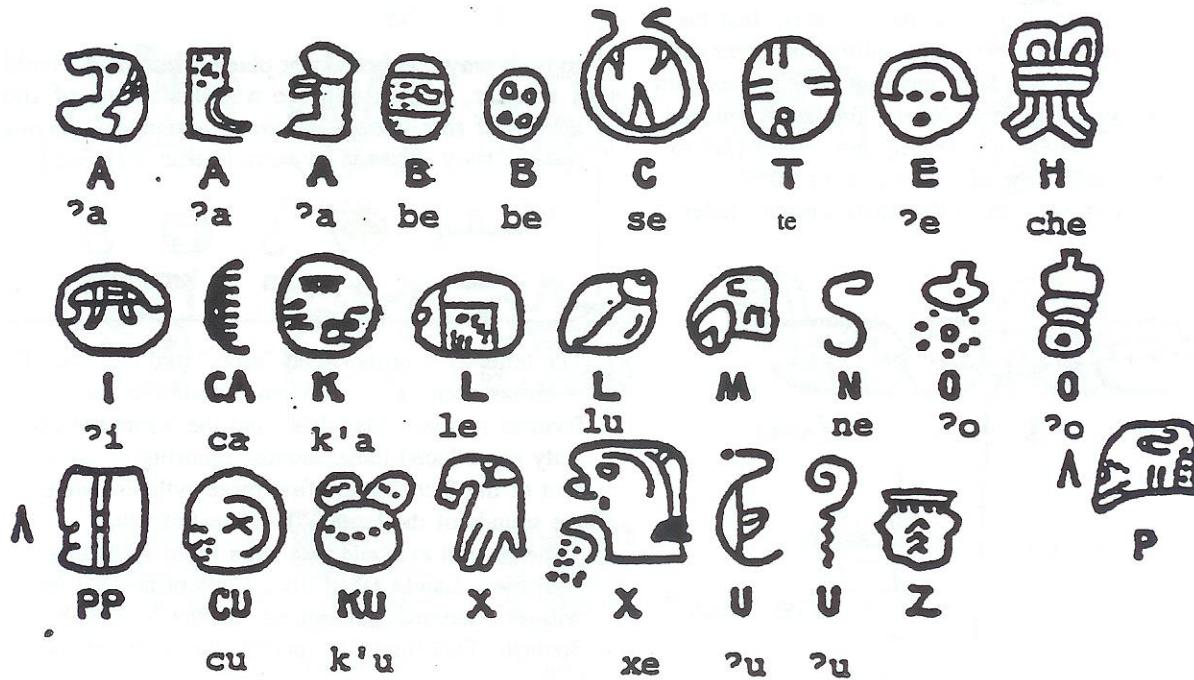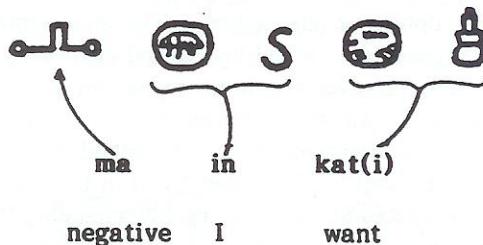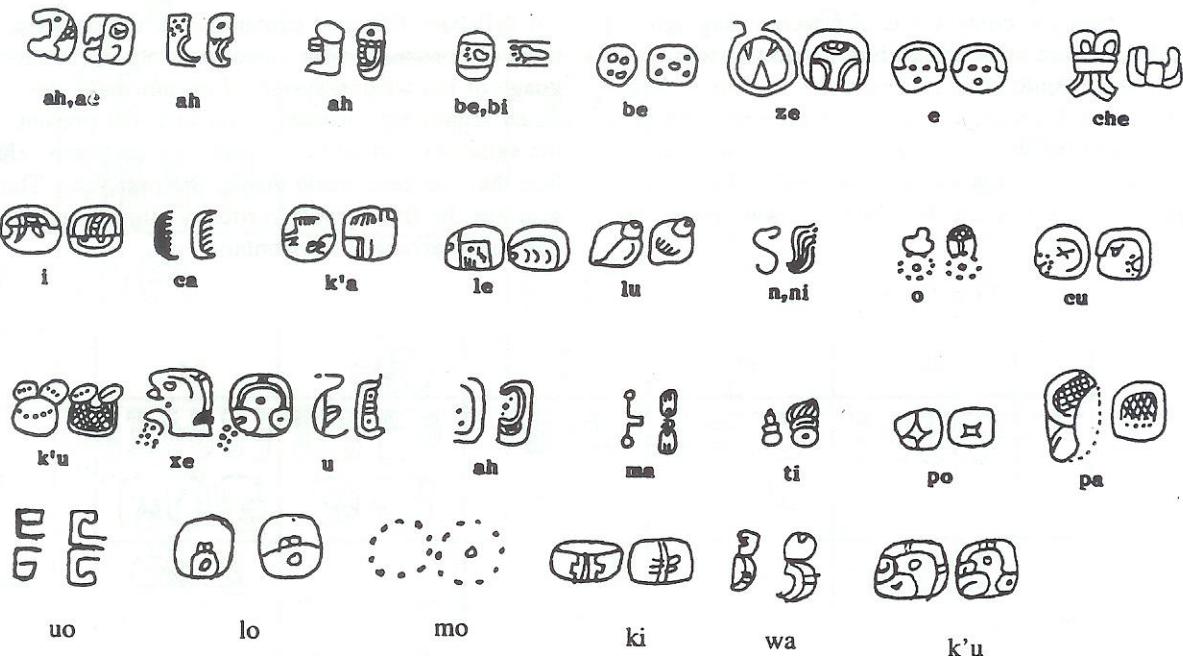
Classic equivalents to Landa's "alphabet"

ample, the informant did not feel constrained to force the boundaries of his syllabic signs to match the morphological boundaries of the words. He wrote the first person pronoun *in* with two signs. In the "alphabet," he insisted on retaining a series of contrasts between glottalized and non-glottalized consonants--*ka* and *k'a*, *ku* and *k'u*, *p* and *p'*-- when these contrasts made no sense to his Spanish inquisitors. These contrasts were apparently basic to the entire writing system and must be respected in decipherment.

We have not yet identified all the allographs for the signs recorded in the "alphabet," perhaps because the informant was hard pressed to fulfill all of Landa's instructions and, therefore, employed rare or unique examples. However, by combining signs from his examples and the "alphabet" with the signs used as phonetic complements in the drawings of the month signs, we can reconstruct a fairly large set of signs with phonetic values given by Landa's informant, values confirmed in the codices and/or monumental texts. Landa's "alphabet" and his record of the day and month signs are the closest thing to a "Rosetta Stone" that Mayanists are likely to find.

Syllabic Spelling and How it Works

Knorozov first demonstrated the basic manner of spelling in the Maya system. To spell a word with the form CVC, two syllabic signs, almost always of the form CV, are combined as CV-C(V) and the second vowel is not pronounced. Brilliant work by David Stuart, Stephen Houston, and Nikolai Grube in recent years has extended the basic system to more a complicated situation. VCVC words, such as *itz'in* ("younger brother"), are spelled with three signs, *i-tz'i-ni*. When longer words like this, especially those ending in *-n* or *-l*, are combined with other words, as in a phrase like *itz'in winik* ("younger brother person"), the final consonant is dropped to form *itz'i winik*.

David Stuart in his *Ten Phonemes* paper appears to have identified another principle in the system. He proposed that the final T126 that often appears on verbs is there as a final *i* to make sure that the -*i* of the perfective was pronounced. In other words, a spelling using CV-CV was read CVC. To get a reading of CVCV, three signs had to be used to create CV-CV-V with the most frequently used signs being the CV glyphs using the semi-vowel *y*. These are T126 *ya* and T17 *yi*.
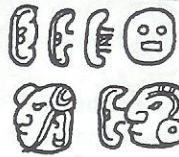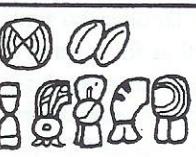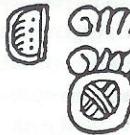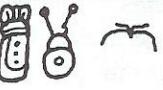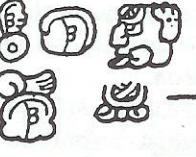
A comparable context was discovered long ago in the spelling of words ending in glottal stops. The Maya could elect to ignore the final stop, but when they did wish to register its presence, the reduplicated the vowel in the main root. For example, *te'* ("tree") was spelled *te-e*; *mo'* ("macaw") was spelled *mo-o*; and *le'* ("noose") was spelled *le-e*.

A syllabary is a grid containing all the combinations of consonant with vowel possible in the language of the writing system. I cannot make detailed arguments for each value so I will present the syllabary and add arguments for each new addition that has been made during the past year. The grid has the five vowels vertically aligned and the consonant arranged horizontally.

The Syllabary

	a	e	i	o	u
b					
ch					
ch'					
h					
k					
k'					
l					
m					

|	a	e	i	o	u
n					
p					
s					
t					
tz					
tz'					
w					
x					
y					

The *u kahi* Agency Expression

Agency expressions are of prime importance for understanding the syntax and grammar of Maya sentences as well as for identifying the true agent of events. This last function in particular is relevant to the detection of accessions under the aegis of foreign kings which is one of the tools for identifying hierarchy in Maya inscriptions. Therefore we have decided to include a discussion of the *u kahi* agency expression in the workbook.

Tatiana Prokouriakoff and David Kelley were the first to point out the existence of hieroglyphs that begin with the possessive *u*, followed by the glyph which, as a day sign, is read *kaban*, but with a different suffix. Tatiana never published her ideas about this glyph, but David Kelley used the glyph which he calls the *u kab* phrase in his 1962 article on the dynastic sequence of Quirigua to identify name glyphs. He notes that the root *kab* of the main sign includes among its meanings in Yukatek Maya, town, place, and world. According to him, this glyph is at least sometimes followed by glyphs which seem on other grounds to be nominals, and are often followed by an emblem glyph.

Although Kelley published his ideas about the *u kab* glyph very early, for a very long time nobody followed in his footsteps. This is even more strange because the *u kab* glyph is one of the most common repeating glyphs in the text corpus of the inscriptions as well as in the Codices. Many scholars have simply ignored the glyph or chose not to comment upon it. In 1982, when Linda mentioned the glyph in her Verb book, the importance of this glyph came to attention again. In the years before her book was written, she, Peter, and Floyd had translated the Palenque texts and had noted *u kab* as a signal of name phrases at Palenque. Linda figured out in her Verb book that *u kab* can appear in two contexts: (1) verbal phrase, *u kab*, name phrase; and (2) verbal phrase, name phrase, *u kab*, name phrase. She notes that in the latter case, the second name phrase is almost always identifiable as the contemporary ruler of the appropiate site, a fact that suggests an agentive construction. Linda argued that *u kab* does include a reference to "earth" and "town" and therefore has used the paraphrase "during the tenure of ...", or "under the auspices of..." as an approximation to its true meaning.
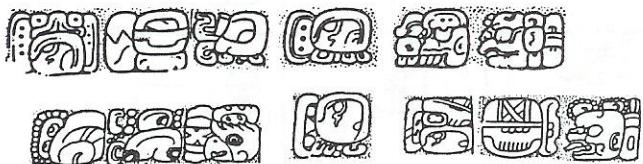
By that time we could not yet read the various suffixes that can occur under the 526 main sign. In 1987 David

Stuart showed that all the signs, T88, T136 and T758b, are graphic variants (allographs) for the syllable *hi*. He also

showed that the *hi* signs often are conflated with *ya* syllables, and that in these contexts the *ya* was added only to reinforce the reading of the terminal-*i*. In the glyphs, final -*i* suffixes are usually indicating the completive aspect of intransitive verbs, like in *kimi* "he died". When Nikolai began to study the components of the *u-526* phrase, he noticed that the phrase behaves like an ordinary intransitive verb, with the -*hi*(-*ya*) suffixes spelling the completive suffix. He also wondered whether the -*h*- consonant was in fact a phonetic complement for the reading the earth sign. It is now well established that most, if not all day signs have a different reading when they are outside the day sign context. Therefore, it is possible that 526 can have an additional reading besides *kab/kaban*.

If the *u-526-hi* glyph is an intransitive verb, its distribution can only be interpreted as an agency expression, as Linda, Peter and Floyd have suggested before. In addition to Linda's notes about its contexts, it should also be mentioned that the *u-526-hi* glyph appears mostly after intransitive verbs, or after verbs in passive

mukah xusat   *u kahi*   *k'inich hanab pakal*
buried was Xusat by K'inich Hanab Pakal
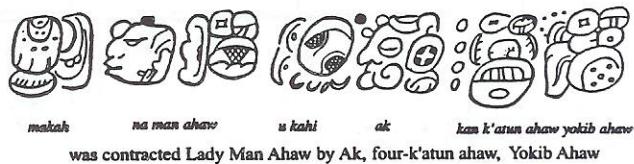
makah   *na man ahaw*   *u kahi*   *ak*   *kan k'atun ahaw yokib ahaw*
was contracted Lady Man Ahaw by Ak, four-k'atun ahaw, Yokib Ahaw

tz'utz'yi   *u lahka k'atun*   *u kahi k'inich hanab pakal, ah ho mul nah, k'ul bak ahaw*
was terminated the 11th k'atun by K'inich Hanab Pakal, He of 5 Temples, ...

mood (which behave like intransitive verbs).

In these environments, the glyph seems to introduce the name of the agent, or the originator of the event. In almost all Mayan languages, agency expressions are composed of some form of the verb "to do", "to make", and "to begin". Nikolai has used the reading *u kahi* for the agency expressions since about 1985 because *kah* is the root "to make, to do, to begin" in many lowland languages and does have a final -*h* (Note Proto-Cholan

*kaj "begin"; Chol kajel "comenzar", kaj "por causa de"; Chontal kah-el "ocurrir"; Tzotzil kaj "begin", ta koj "because of"; Yukatek kah "hacer suceder", "pospuesto al cuerpo de todos los verbos en presente de indicativo, significa estar actualmente haciendo lo que los tales verbos significan ..."). Later, he found that William Norman, John Fox and John Justeson have been using this interpretation of the compound since 1979. They have not had the phonetic evidence on which the decipherment can now be based. In Colonial Yukatek, the agent of transitive and intransitive verbs in the incompletive aspect was represented by the auxiliar phrase ergative pronoun with defective verb kah "to do", like in kambesah u kah "he teaches", lit. "teaching is his doing". In colonial Yukatek, and presumably also in the inscriptions, u-kahi fulfilled the same functions as the word r-umal in K'iche' and t-u-mèen in modern Yukatek in that it introduces the agent of a sentence. The best translation for the u kahi glyph is "by the doing of", or simply "by".

Kah also means "town", and "village", meanings that clearly overlap with those of kab "earth", "town". The phonetic reading of the "kaban" sign as kah can be

<center>Madrid 89c, 97b   Dresden 66a</center>

supported by substitunional evidence. Simon has found instances in the Codices where T526 is used as a simple ka syllable.

 Only a few days before this was written, Nikolai got a letter from Christian Prager, a young Swiss epigrapher, who notes that on Yaxchilan Hieroglyphic Stairway 3, Step III, the chukah "capture" verb employs the "kaban" sign for the ka syllable between chu- and -hi-ya.

Simon and Nikolai have also found examples where the u kahi glyph is written with the "tailed" version of


<center>Sbl. St. 11   Bon. Lnt. 3   Yax. St. 7   Yax. HS 5</center>
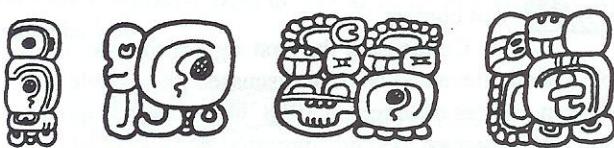
T511, the main sign of the second Yaxchilan emblem glyph. This "tailed" T511 can be shown to substitute freely for the "earflare" sign; the "earflare", the "tailed" T511, as well as our kah sign occur as suffixes under the star sign in Star War expressions. Like the kah sign, the "earflare" and the "tailed" T511 can have hi suffixes. The tailed T511 occurs also as an element in some spellings of the name of God D/Itzamna. Given the substitution

patterns between the three signs, Simon and Nikolai came to the conclusion that the earflare as well as the "tailed" T511 share the kah reading with the "Kaban" sign, producing a reading Itzam Kah for some variants of God D. Itzam Kah "Sorcerer of the town" is one of the epithets carried by Itzamna. Finally, on Tikal Stela 26 the final -h of the Itzam Kah name is beautifully represented by the headvariant of the hi sign carried by the God himself.

The decipherment of the *hub* verb

In this year the war verbs will receive special attention. In the past years it has been possible in a combined effort to decipher some of the most important verbs that describe events related to warfare. The most important war verb, the so-called Star War glyph, however, still escapes decipherment. Another very important war verb is the hubuy or hubi glyph which occurs in many of the same contexts as the Star War. Because this verb has a wide distribution, and because the decipherment of its components has never been written up, Linda called Nikolai and asked him to present a discussion of the hub verb for the workbook.
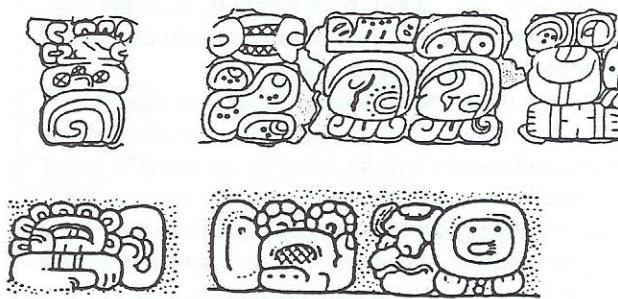
The first person to suggest an interpretation for the collocation of T45.21.17 was Linda. At the 1979 conference on Phoneticism in Maya Hieroglyphic Writing, she discovered that this glyph is used as one of the expressions for an event that took place early in the life of Kan Balam, before he acceded to the throne. In the 1984 publication of this conference she transcribed the

glyph as "he acceded" and interprets it as an heir-designation event. At the 1980 Palenque Mesa Redonda, Linda's students Andrea Stone, Dorie Reents, and Robert Coffman presented a first analysis of the hieroglyphic texts from Caracol and noted that the glyph 45.21:17, which they called the "bone-shell"-event, is found in passages which deal with the influence of Caracol at Naranjo. They recognized that the "bone-shell"-event is very similar to the "shell-star"-event and that both glyphs seem to refer to militaristic events.

In the meantime, many colleagues had noted that the glyph occurs together with the *tok' pakal* "flint shield" collocation deciphered by Stephen Houston in 1983. In these phrases which obviously referred to a war-related event, T45.21:17 occurs as a verb before the flint-shield glyph. The actual reading of the three signs in the glyph took much more time than the interpretation of its meaning. The first sign which was deciphered was the dotted T21 curl as *bu*. In 1986 Nikolai had found contexts where T21 occurs as the last sign in the word for "Lintel," *pakab*.


The sign is very similar to a sign which was identified by Yurii Knorozov in the fifties as the sign for the syllable *mu*. The graphic similarity between the signs for *bu* and *mu* may reflect the phonological similarity of *m* and *b* in Mayan languages. The sign occurs as the last one in the name of the month Pop. The old Chol name of the month is recorded in a 16th century source as *canhalib* (*k'an-hal-ab*). While the main sign combines the mat motive (*hal*) with the sign for precious, *k'an*, the suffix had to provide the final *-b*. In Poqomchi the name of this month is given as *K'anhalam*.

At first, Nikolai thought that the curl sign should have a value *-ab*. But the Maya syllabary did not include other VC signs, and usually writing systems that have CV signs do not have VC signs at the same time. The fact that the curl sign so often occurred with other syllables that have an *u* vowel finally lead Nikolai to suggest a *bu* reading for T21. That the sign must have an initial consonant *b-* became quite clear in May 1990 when Alfonso Morales and Julie Miller found the Stair of the Ante platform at Copan. The dedication text of the stair contains a
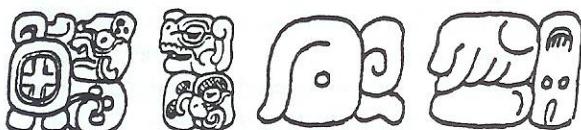
reference to a *k'anal eb*, "precious stair". The word *eb* "stair" was written with a combination of the winal frog, which David and Nikolai have shown to have the value *e* in the PSS on pottery and in other contexts. In 1988 David Stuart had also identified the glyph for *y-eb* "his stair", written *ye-ba* in the dedication phrase of the Hieroglyphic Stairway at Copan. The combination of David's *ye* sign with the suggested *bu* sign also shows up on La Amelia Stela 1 in the context of ballgame. And finally, there is another mention on the word for stair on the Naranjo Hieroglyphic Stairway. In all these contexts, the curl sign had to be the syllable *bu*.

David Stuart discovered that the curl occurs in a name of a person from Lakanha where his reduplication dots are added to the *bu* sign. He translates the name as *bubul ha*, "water bug".

Later, in 1991, Stephen Houston contributed more evidence for the *bu* reading. He found that on a polychrome vase (Kerr 1728) one of the figures is carrying a wooden beam with a curtain. The accompanying glyph calls the person *ah u yub*, "the one with the curtain". And on another scene on Kerr 2914, Steve found the first person plural pronoun *ka* in front of the collocation *bu-lu*, as in *ka bul* "our beans."

On the Palace Tablet at Palenque, in a passage referring to Kan-Balam's death, the *bu* glyph precedes a sign David and Steve have identified as a *t'u* syllable. *But'* means "to bury, cover", which makes a lot of sense in that context.
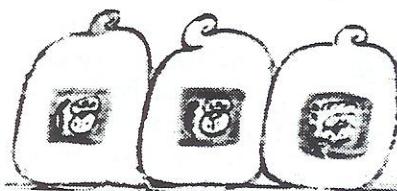
Concerning the first sign of the war glyph, David, Steve and Nikolai discussed its possible reading in a series of letters in 1988. Using the bu sign as a "point of departure," David suggested that T45 could have the vowel u because its occasional linking with u syllables. His first tentative suggestion for a reading was *ch'ub/k'ub* "to give, to deliver", so that the flint shield collocation would translate as "delivered was the flint and the shield." In October 1988 Barbara MacLeod in a letter to Nikolai proposed that T21 be read *mu*, and that the root of the verb should be *pum* "to color, paint". In her interpretation, the flint shield collocation would refer to the painting of the war shield with blood.

While the discussion about the reading of the first signs was going on, David published the seminal *Ten Phonetic Syllables* paper in which he demonstrated beyond doubt that T17, the "shell" sign writes the syllable *yi*. Barbara took David's *yi* sign and showed that it occurs as a suffix to many intransitive verbs in the completive aspect. Barbara called attention to the fact that in Eastern Cholan intransitive inflection a subclass of root intransitives has a completive marker formed by reduplicating the vowel of the root and following it with *y*. Thus, with the preceding sign being *mu* or *bu*, the verb had to end in *-uy* and had to be an intransitive verb.

In the summer of 1989 it was clear that the 45.21:17 verb had to be intransitive, and that its final elements were *mu-yi* or *bu-yi*. The root of the verb was *kub* or *kum*. The open question still was the reading of the first sign. Barbara's previous suggestion to read the verb as *pum* made sense in some environments but could not explain all critical contexts. For Nikolai, two occurrences of T45 in combination with a *chi* suffix and with a possessive *u* prefixed provided the clue to the reading.

On a conch shell plaque in the Cleveland Museum of Art and on the Simojovel Shell plaque he found *u 45-chi*
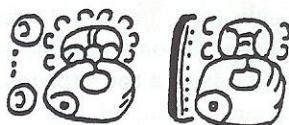
u huch "his shell"

in a name tagging phrase, followed by the name of the owner. Therefore, the glyph had to spell the name for the object, the conch shell . Now it was easy to go through Cholan and Yucatecan dictionaries and to find a word *kuch* for the object. Indeed, in Chol *huch* is the word for "conch." Now the hypothetical reading hu could be tested in other contexts. On Yaxchilan Lintel 24 *hu-lu* occurs in a bloodletting phrase. *Hul* means "to spear" and "to perforate" in Yukatek and Cholan.

On Piedras Negras Lintel 2 Nikolai interpreted these glyphs as a title of a visiting Lakanha lord:

ah pa-ya-li hu-ku-bu "leader of the canoe"

Note that in Yukatek *ah payal* means "guide, leader", and in Chol *jucub* is the word for "cayuco".

This glyph in the Dresden Codex had to be a food offering. *Huh wah* is "Iguana bread", a very common Yucatec food offering still prepared in Ch'a' Chaak ceremonies.

The reading for the war verb had to be *hub*. *Hub* has several meanings that are appropriate in this context. Most important, it was the root for "to descend, to down" in Cholan and Yukatekan languages, in the sense of to put or bring something down. In the war context, either a captive or the *tok' pakal* of a captive

were downed, and in the heir designation texts, the young heir was brought down from the pyramid.

Barbara and Nikolai have independently accumulated additional evidence for the reading of the first element in the glyph as *hu*. Both noted that T45 occurs in Glyph D of the Lunar Series. There, as T45-*li-ya* it must refer to the inception of the current lunation. Barbara also noted that T45 can be replaced by T740, the "birth frog" in the lunar series, and by a variant of T683, the "moon sign." At the 1990 Texas workshop Nikolai presented evidence that all variants of the Glyph D can also occur with toponyms following, and that, outside the lunar series, the Glyph D verb had to refer to the visit or arrival of persons at specific locations. Now with the T45 slot filled with the reading *hu*, the entire glyph yields *huli-ya*. The *-ya* suffix

Glyph D   *Huli* **toponym**
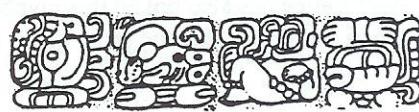
serves to support the final *-i* of the completive suffix. The verb root is *hul*, a word for "to arrive at" in all lowland languages.

All variants of Glyph D can be shown to have the reading *hul-i*. The substitution of the "birth frog" can be explained when the sign is not interpreted as a frog but as an iguana, *huh* in Maya. The variant of the T683 moon sign

differs from the real moon sign in that the central element equals an eye. Nikolai takes this to be a logogram for the verb *hul*. The hand sign of Glyph D can also be interpreted as a logogram for "to arrive". It must refer to the inception of the current lunation.

A Verb for lok' "to leave" and "to escape"

This is the story of another exciting discovery that occurred simultaneously at two different places. In 1991, almost as a by-product of a class on warfare in the Eastern Petén, Nikolai had deciphered a verb for *lok'*, "to escape, to leave." He did not have time to write this up. In June 1993, Alfonso Lacadena, a Spanish epigrapher who had worked with the Spanish Archaeological Mission at Oxkintok, wrote a letter to Federico and me in Guatemala in which he proposes the same decipherment with exactly the same arguments. The sign which Alfonso and Nikolai read as *lok'* is another rare logograph. It shows a snake coming out of the *yi* sign.


The syntactic position at the beginning of clauses confirms that it is a logogram for a verb. The sentence in which the verb occurs are short; they usually do not have an object, therefore, the verb seems to be intransitive. The verb is also found in the Codices. In the Madrid Codex the verb accompanies scenes of Gods emerging from, sitting on, or being swallowed into the open maws of serpents.

David Kelley has also linked this glyph to the serpent scenes and has shown that the same glyph occurs on
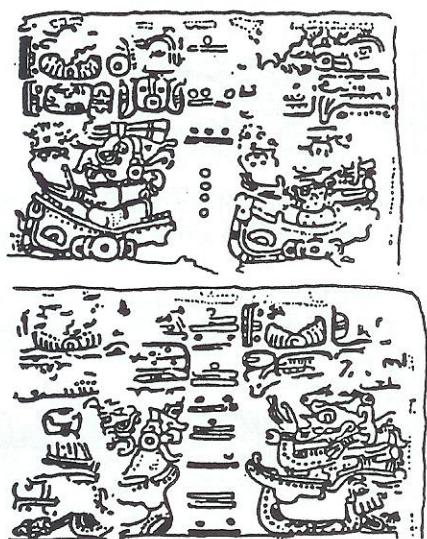

Dresden Codex page 61, directly preceding the figures of serpents with deities seated on their jaws, which accompany extremely long calendrical calculations. What is most important is that sometimes a *lo* sign is attached to the glyph.
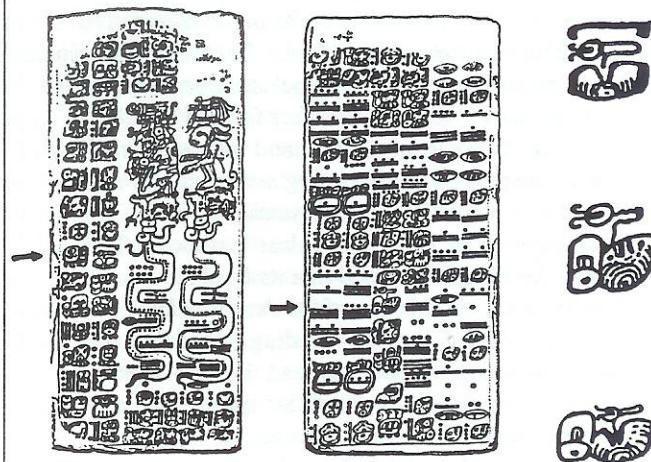
(Illustrations taken from Alfonso Lacadena's letter)

The hypothesis with which Alfonso and Nikolai worked is that the *lo* sign is a phonetic complement. Now it was easy enough to go through the dictionaries and to find intransitive verbs beginning in *lo* that could refer to the events shown in the Codices. The only possible verb they found was *lok'*, "to escape from a bad situation or danger" in Yukatek. In Chol and Tzotzil, *lok'* has meanings that fit even better into the various contexts of this verb. In Chol, *lok'-el* translates as "to go out", Wisdom's Chorti dictionary has *lok'* "leaving, departure, a coming up or out, escape", and in Tzotzil *lok'* is given as "absent one's self, be reduced to... go out, leave, sprout".

The verb occurs several times on the Hieroglyphic Stairways of Dos Pilas and Tamarindito. The earliest occurence of the verb is on Dos Pilas Hieroglyphic Stairway 2 in a phrase that records a Star War against

Tikal by Calakmul at 9.11.4.5.14 6 Hix 2 K'ayab. The *lok'* verb is the second verb in the sentence and probably describes that Shield Skull abandoned Tikal.

The next time the *lok'* verb occurs is again on Dos Pilas Hieroglyphic Stairway 2, this time in a phrase with two other verbs, a Star War, the verb David Stuart identified as *pul* "to burn", and finally the *lok'* verb. All three events are directed against Shield Skull. The date is 9.12.5.9.14. Here it seems that Shield Skull again had to

escape because a Star War was waged against him and his residences were burnt.

The last mention of the *lok'* verb in Dos Pilas is on Hieroglyphic Stairway 4, Step III. This stair records a Star War against a location or a person called pulul at 9.12.5.10.1 9 Imix 4 Pax. The agent of this verb was the Calakmul king. The *lok'* verb is the second in the phrase and precedes the name of Shield Skull. It seems that Shield Skull, who on 9.12.0.8.3 had attacked Dos Pilas and caused Ruler 1 to "walk" (*xan*) had physically occupied Dos Pilas territory, and through this Star War by Calakmul against *pulul* he was forced to leave again, so that Ruler 1 could return to Dos Pilas, as recorded on Hieroglyphic Stairway 2.
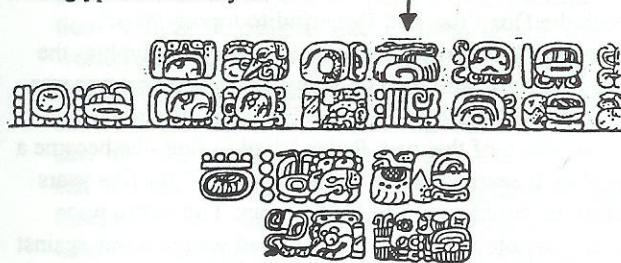
This is not the last time that a Ruler from Dos Pilas was forced to leave his place. On Tamarindito Hieroglyphic Stairway 2 the *lok'* event occurs with 9.16.9.15.3 9 Ak'bal 11 Kumk'u, the last date associated with Dos Pilas Ruler 4. Stephen Houston suggests in his book on the Dos Pilas dynasty that Ruler 4 died violently, and that the Dos Pilas king probably was killed by people from Tamarindito. Alfonso Lacadena mentions that the *lok'* verb translating as "to come out, leave" was absolutely appropriate in this situation, because by that time the royal residences at Dos Pilas were encircled by two walls topped with wooden palisades that were excavated by Arthur Demarest and his Vanderbilt team.
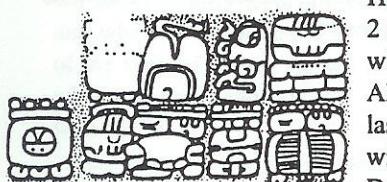
One more example should be added. On Naranjo Stela 23 the *lok'* verb occurs in a context which still is not entirely understood. The date is

9.13.18.4.18, and the main event is a *puli* "he burned" verb. According to the text, the seat of the king of Yaxha was burnt. This happened 18 days after his accession, *iwal lok'i*, "and then she left,." *yitah yatan na mutul ahaw u kahi butz' tiliw chan chak k'ul sa ahaw*, "his companion, his wife, the Tikal princess, by the action of Smoking Squirrel Sky Chak, divine king of Naranjo." Here, as a consequence of a war by Smoking Squirrel against his enemy Yaxha, the spouse of the Yaxha king was driven out of the polity.

A Hieroglyphic Verb for "travel" and "walk"

The sign to be discussed here is quite rare in the corpus of Maya hieroglyphic texts and therefore has often been overlooked or misinterpreted. The sign seems to be composed of two seperate signs, the logograph for the colour "black", *ek'/ik'* in Maya, and a small *bi* syllable infixed into it. Sometimes the crosshatching in the oval element over the *bi* syllable is not well preserved. Therefore, the sign was read by various previous scholars as a combination of the syllables *lo* and *bi* (*lob*).

When Nikolai studied this glyph, he found two occurences of it on incised "Site Q" panels. Both are clearly in verbal contexts, they occur after a calender round date and a distance number.
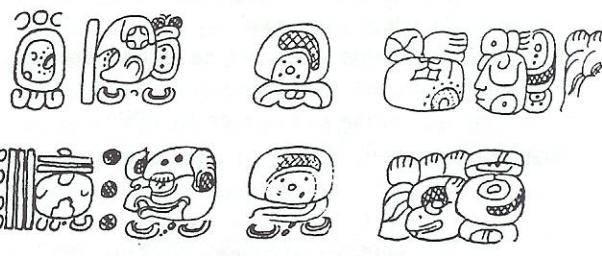
The two glyphs also share suffixes with a first consonant *n*-. While the example associated with the calender round date has a *na* suffix, the one associated with the distance number goes with *-ni-ya*. In the latter sentence, the name of the subject of the sentence follows, and then another verb is introduced by the *iwal* focus marker "and then". These two occurrences lead to a number of conclusions. In the second example, the *-ni-ya* suffixes indicate a completed event from which the distance number is counted ("n days after x had happened"). In glyphic Maya, the completive aspect is often expressed by an *-i* suffix added to the verb. David Stuart has shown in his "Ten Phonetic Syllables" paper that, in order to strengthen the *-i* suffix, a *-ya* sign was attached to it. If the verb with the distance number was in

the completive aspect, the example after the CR date probably was not. Therefore, it also seems to be likely that the -na and -ni suffixes serve as phonetic complements for a logogram of the type CV*n*.

The contexts in which the verb occurs also reveal something about its possible meaning. On Site Q Panel 2 the verb precedes the *naab tunich* toponym related to Calakmul. On the other Site Q panel, the verb precedes the name of an individual and a second verb, which is *iwal huli* "and then he arrived". From this evidence Nikolai concluded that the verb must refer somehow to an action that can be done to locations. Yet, this information would not be enough for decipherment. When Nikolai studied the hieroglyphic text of a square "ceramic codex"


vase photographed by Justin, he noted that the same verb recurs in the painted hieroglyphic text after a "dawn" distance number glyph.

In this example, the glyph has a suffix which is hard to read (*li* or *na*) and a *xa* syllable in front. If this is the same verb, *xa* in this position can only be another phonetic complement. When the *xa* and *na/ni* complements are put together, the resulting word is *xan*. *Xan* translates as "travel, walk" in all Cholan languages (Chol *xän* "andar"), in Proto-Maya, in Tzotzil (Laughlin's ditionary of Colonial Tzotzil has *xan* "travel, walk to or from a certain place"), and occurs as *ximbal* in Yukatek. Now, the two sentences from the Site Q panels can be translated easily "he walked to *naab tunich*" and "it was three years, elf months, and nineteen days that he had travelled, *yo-he-le*, when he arrived".

When Nikolai told this to Werner, he replied with an enthusiastic late night call the other day. He had found one more occurence of the *xan* verb on Dos Pilas Hieroglyphic Stairway 4, Step 3.
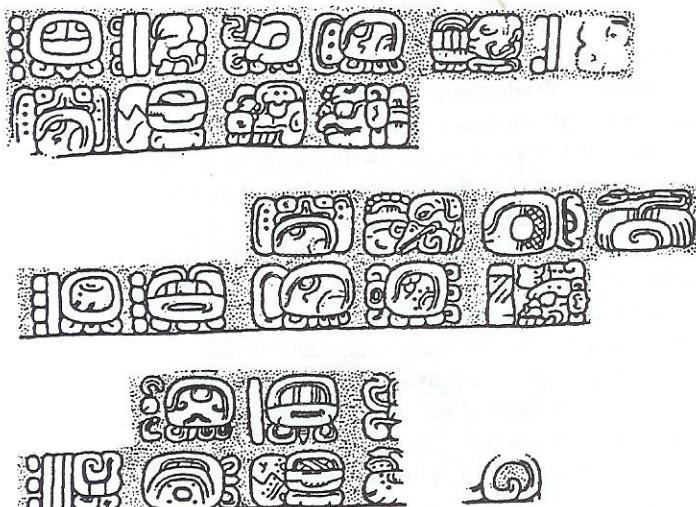
Nikolai and others have taken this example as a true *lob* verb and had thought of it as a possible restatement of the shell star verb mentioned in the passage before. Werner, however, had carefully studied the photo of the stair in a National Geographic Magazine article and discovered that the oval element over the *bi* quincunx contained crosshatching, so this had to be another *xan* verb. Werner also found how this *xan* verb fits into the sequence of events on the Stairway. Step 3 begins with the date 9.12.0.8.3 and a "shell-star" event against Ruler 1 of Dos Pilas by Shield Skull of Tikal. On 9.12.5.10.1 another "shell-star" event is cited, this time involving someone named pu-lu-li, who experienced this event u kahi "by the doing of" a ruler of Calakmul. A lok' event is happening to Shield Skull of Tikal. He is driven out of Dos Pilas. Events relating to the same two "shell-star" dates are following the distance number of 5.1.18 that links the two dates. The first event is the xan verb, here with a ya sign to indicate the completive aspect "he had travelled". The next glyphs are the name of Ruler 1. After an eroded glyph the Dos Pilas and Tamarindito toponyms are following. Werner reconstructed the broken glyph as the verb iwal huli "and then he arrived at". The first war was led by Shield Skull of Tikal against Dos Pilas. As a consequence of this war, Ruler 1 had to flee - he became a fugitive. It seems that he "walked around" for five years before he could return to his territory. The return was made possible because Calakmul had waged a war against pulul, and consequently, Shield Skull, who may have occupied the Dos Pilas territory, was forced to escape, as expressed by the lok' verb. Thus, even though the xan verb is rare, its decipherment provides valuable insights into the nature of Maya warfare.

9.12.0.8.3 "Star-war" by Tikal against Ruler 1

9.12.5.10.1 "Star-war" by Calakmul against Pulul, *lok'* of Shield-Skull.

DN 5.1.18 he travelled (and then he arrived at) Dos Pilas (Werner's translation)

Word Order and Grammar in the Writing System

Between 1974 and 1978, when Floyd Lounsbury, David Kelley, Merle Robertson, Peter Mathews, and I participated in a series of mini-conferences in which we worked out the first paraphrased readings of Palenque's inscriptions. Many epigraphers before us, including Seler, Förstemann, Proskouriakoff, Berlin, among others, understood that they had identified glyphs denoting an action or the being doing the action. Nevertheless, attempts at decipherment remained by and large a glyph by glyph endeavor with the most common technique being to find every context in which a glyph occurred in order to determine its meaning. Led by Floyd Lounsbury, our group gradually began to rely on word order and the structure of clauses and whole texts to generate paraphrased translations. Mayan languages, like all languages in the world, must have structure in order to communicate so that if the basic word order of a language can be determined. If we know the basic word order, then the position of a glyph within a clause can be used to determine its probable grammatical function. Thus, while we may not have known what the meaning of a particular glyph was, we knew from the syntax that it was a verb or part of a prepositional phrase or part of the name of the subject. Using the larger matrix of historical data, we could usually figure out who did the action and when it was done, and suggest a general idea of the type of event. Or we might have known what was done and when it was done, but not who did it.

Applying this and other kinds of linguistic information has allowed us to identify couplet structures, deletion and gapping structures, highlighting features, and many other kinds of understandings that have transformed Maya inscriptions into an important body of literature as well as a record of history.

Gradually over the years the paraphrases have been refined as our understanding of grammar, syntax, discourse structure, and phonetics has evolved. There is still a lot to do, but the use of paraphrased translations allowed us to begin reconstructing history and it became the basis of much of the startling advances in phoneticism and discourse structure that have been made during the last decade.

. Some of the basic arguments about the identifications of the parts of speech and grammatical features of the writing system are given below.

The Event Glyph (The Verb)

The syntax or word order of the Maya hieroglyphic system is best examined in the context of the Dresden Codex in which texts can be shown to be directly related to the scenes which they accompany. In each of the illustration sets, individuals are shown engaged in the same activity. In the first set, four different personages "fall" head down with leaves growing from their limbs. In the second set, the same character (God B) is shown seated within different locales or on different objects.

We can begin with the assumption that the sets of four glyphs above each scene refer in some way to the pictures. Thus, if we find patterns of samenesses and difference repeated in a systematic way, the repetitions are connected or determined by some quality of the scene. In the first set of scenes, the four personages are different, but their actions are the same; in the texts above each scene, the first two glyphs are the same, and the second pair are different. Following the assumption that the texts change according to some quality of the scene, we can begin with the hypothesis that the first two glyphs refer a quality of sameness, or to the actions of the figures, and the second two glyphs refer to a quality of difference or to the identities or some quality of the individuals. From other well identified "fire-drilling" scenes in the Dresden, however, we can determine that the second glyph in this set is a doubled version of the thing into which a fire-drill is placed. The action must then be recorded by the first glyph.

In the second set, the first and third glyphs are the same in each text while the second and fourth are different. However, in this set, we have determine that the person in all the scenes is the same (God B), so we can expect that either the first or third glyph must name the actor. At the same time, since we have already determined that the first two glyphs of Set 1 must refer to the action,
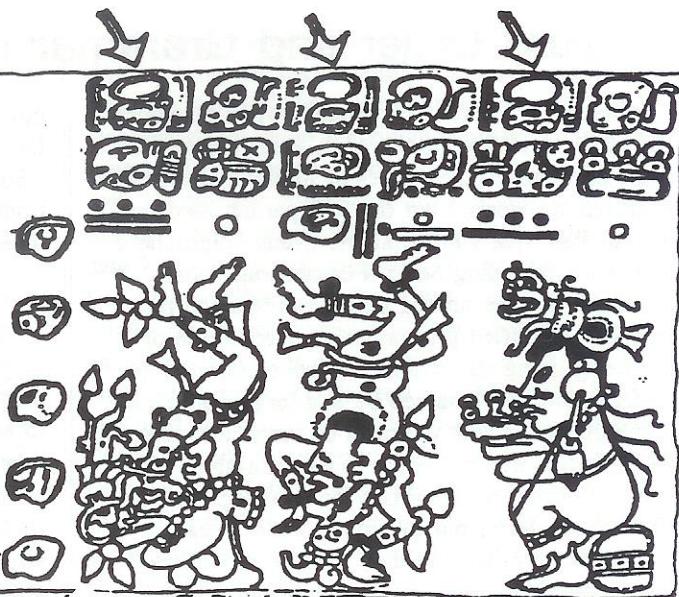
Dresden 15a   Dresden 16a

we can begin by testing the assumption that the first glyph in the texts of Set 2 also records the action and that the third names the actor.

This structural relationship between the patterns of sameness and difference in the sets of scenes discussed above can be tested throughout the Dresden Codex. Whenever the actions of the pictured figures are shown to be the same, the glyphs in the first positions are the same. Conversely, when different activities are shown in individual scenes, the glyphs in position 1 are different. In other words, the initial glyph(s) that are not calendric or directional co-vary with the activities or states shown; Glyph 1 in the texts shown here and in most hieroglyphic texts record the pictured activity and are, therefore, event glyphs or verbs.

Tatiana Proskouriakoff in her seminal work on the "historical hypothesis" found exactly the same word order in the Classic inscriptions; those glyphs immediately following calendric data or at the beginning of clauses record the state or action. It should be noted here that it is somewhat misleading to assert that all non-calendric and non-directional glyphs in initial position are grammatically verbal, since Maya languages can also use other grammatical constructions in this position, but with the reservation that glyphs in initial position may describe the action or state with different

kinds of grammatical constructions, it is possible to say that the Maya hieroglyphic writing is verb initial. Interestingly enough, in spoken Mayan languages, the preferred word order is also verb initial.

The assertion of verb initial word order in the writing system is especially reinforced by a series of scenes in from Dresden 66a-67a in which a structural and pictorial relationship can be demonstrated between the initial glyph and the scene. In the four selected scenes God B is shown engaged
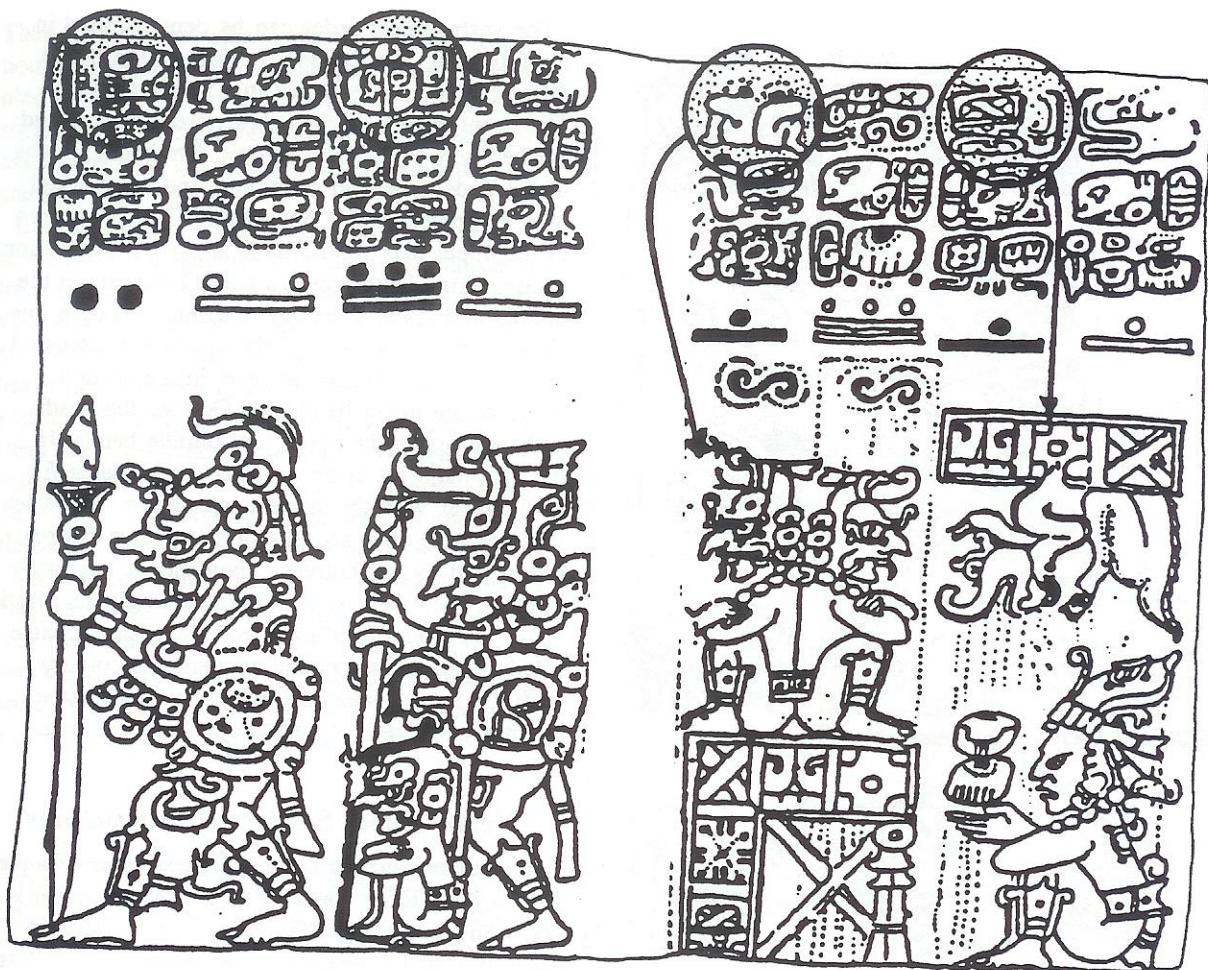
in different activities and in each case the initial glyph is different. Scene 3 is especially pertinent; the scene shows two God B figures seated on a sky band in a back-to-back position. The first glyph in the text is two torsos seated in a back-to-back position; in other words, the event glyph reproduces pictorially the position in which the actor is shown. In scene four, a peccary hangs from a sky-band, and the first glyph is the "sky" glyph. Again there is a direct pictorial relationship between the action, position, or state shown in the scene and the glyph in initial position.

The Subject (Name Glyphs)

In 1904, Schellhas demonstrated that certain glyphs always occur when certain gods appear in scenes in the codices. He asserted that these glyphs name the gods and he gave them letter designations, such as God A, B, C, etc., still used in the nomenclature today. Zimmerman further refined the designations Schellhas had suggested, splitting several large categories into separate gods with new letter designations. Schellhas had in fact identified the glyphs which named the individual gods, but those names occur in a syntactical structure which begins with verbs. They are not only the names of the gods, but they are also the subject of verbs, and in all cases, these name glyphs follow the event glyph(s). Tatiana Proskouriakoff in her 1960 analysis of the historical contents of the Classic inscriptions found the same word sequence; glyphs naming the protagonist of the monumental text follow those glyphs recording actions or states. Sentence order in the glyphic system is Verb-Subject.
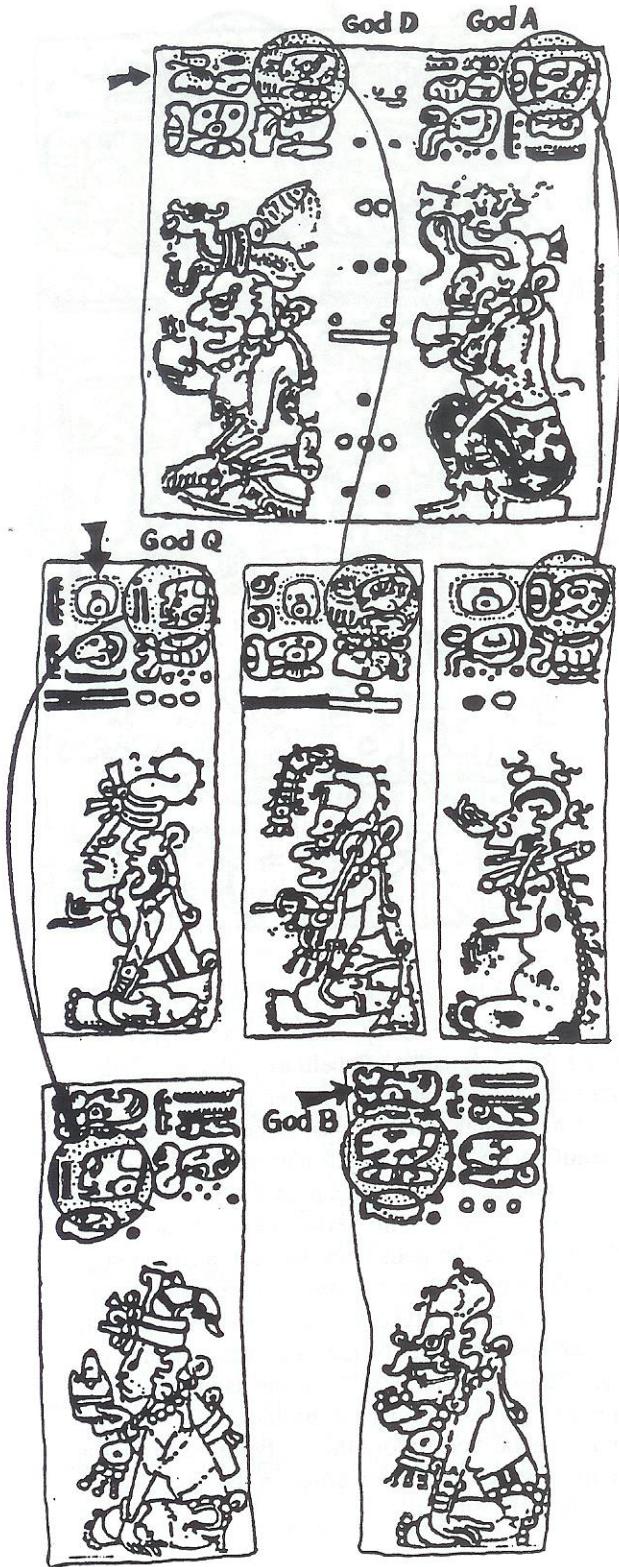
The verb-subject order can be demonstrated in the following illustrations. In each of the bands, different gods are engaged in a single activity. The event glyphs in each series are the same and marked here with black arrows. The name glyphs of the gods appear in position 2 and are marked with a stippled circle. Schellhas's God D appears in the upper and middle band as shown by the connecting line. Zimmerman's God Q appears in the middle and lower band, again connected by a line. God B, the protagonist of the last scene discussed under the verb section, appears in the second scene of the lower band, and God A, the death god, appears in the upper and middle bands. In the vast majority of occurrences, these same figures appear with the same name glyphs, and when these name glyphs are missing, the same figures are named by attributives (Thompson's "augury" glyphs), identified by Zimmerman as glyphs identifying some quality of each god. Schellhas's name glyphs (and the associated attributives) co-vary with the figures shown in the scenes, while the event glyphs co-vary with the activities shown.

Verb-Object-Subject Constructions

As demonstrated in the previous sections, the preferred word order for the Maya writing system is Verb-Subject, but the examples so far discussed have utilized intransitive verbs. A number of texts in the codices and Classic inscriptions record transitive actions; in other words, the action involves both an actor and an object acted upon. Although verbs that can be identified grammatically as transitive constructions are rare in the inscriptions, the word order associated with constructions that include a verb, patient (object or person acted upon), and agent (actor) have been identified.

In her 1963 analysis of the inscriptions of Yaxchilan, Proskouriakoff offered an analysis of Lintel 8 with identifications of an event glyph for "capture" and the names of the captive (patient) and the captor (agent). The first two glyphs in the text record the date 7 Imix 14 Tz'ek. The reading of the third glyph is *chukah* "was captured", and the fourth glyph, a skull surrounded with jewels, not only follows the verb, but it also appears on the thigh of the personage who is clearly being captured. Bird-Jaguar, the figure at the right who grabs Jeweled-Skull's wrist, is named at E1-E3.

Thus, a scene that clearly shows a transitive action, one person capturing another, is accompanied by a text with a verb, a name indisputably associated with the person captured, and a another associated with the person shown dominating the captive.

It turns out that "preferred argument structure" in Mayan languages predicts that most clauses will have only one full noun phrase argument for each verb and only one new piece of information in each clause. Without getting overly technical, the Maya rarely used a direct transitive argument, such as "Bird-Jaguar captured Jeweled-Skull." Instead they preferred to use a passive form of the verb, "On 7 Imix 14 Tz'ek, was captured, Jeweled-Skull," with the agent recorded in another clause as "[he was] the captive of Bird-Jaguar."

The text adjacent to the second set of figures on Lintel 8 names the components in what may be a very rare example of a transitive expression in the verb-object-subject order. Again, the standing figure clearly acts upon the kneeling one, who has his name glyph inscribed on his thigh. The text be-

u-verb stem-∅.

he-captured-him

1

2

3
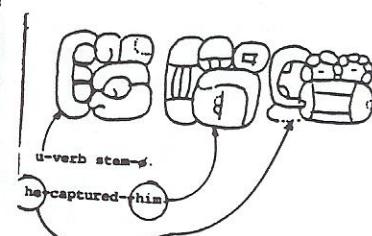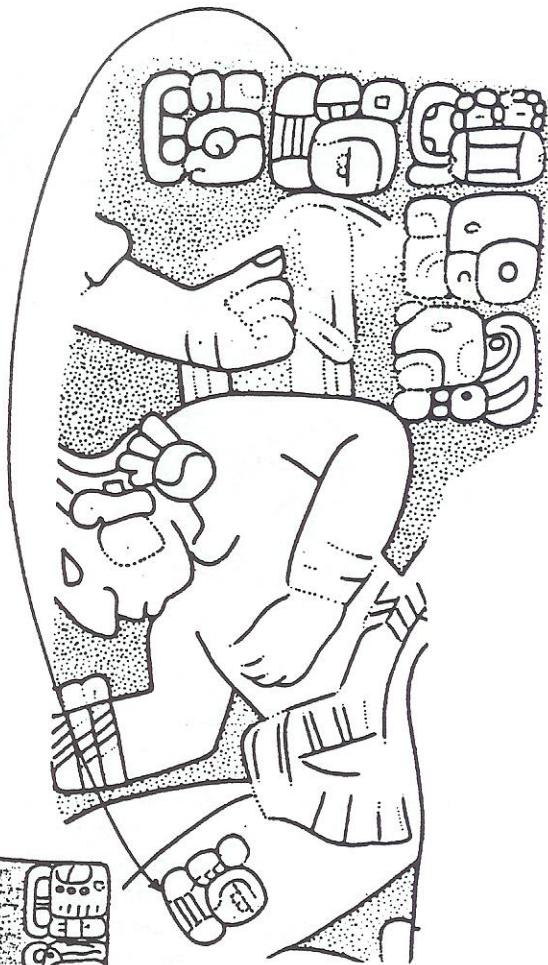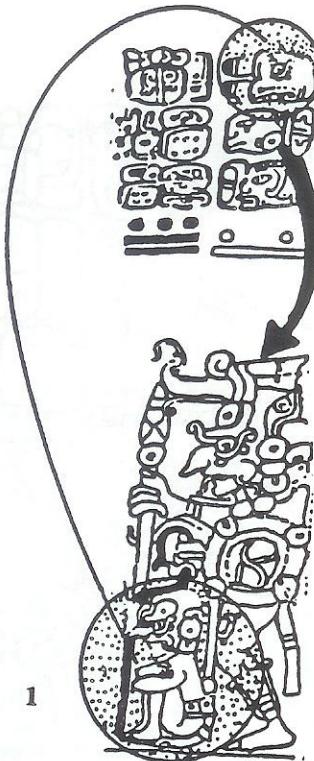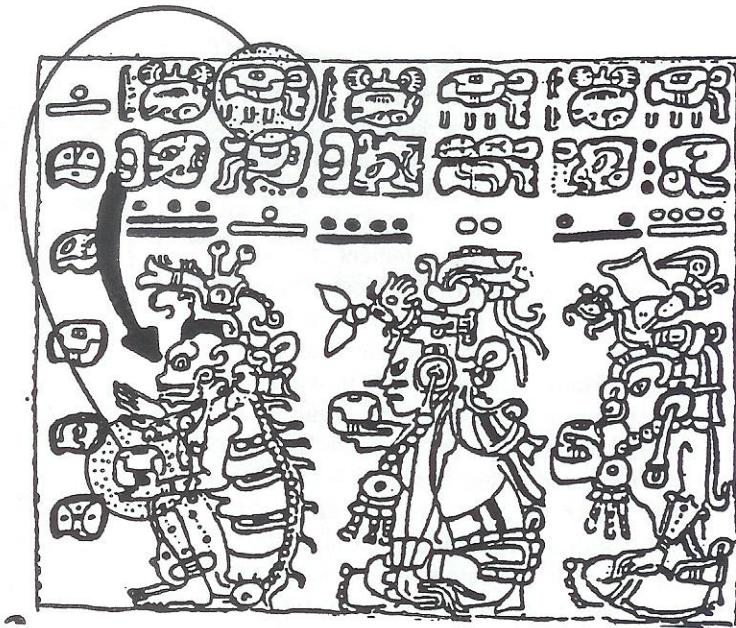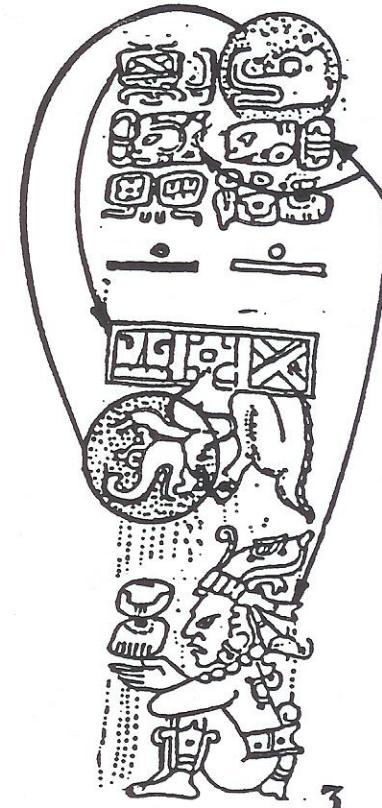
3.

gins with the glyph identified by Proskouriakoff as
"captor of" [Nikolai Grube, Steve Houston, and
David Stuart have shown this to be *u chan*, "the
guardian of"] and by what Marshall Durbin identi-
fied as a transitive verb. *U chan*, "he guards him"
is followed by the glyph on the captive's thigh
"Kot Ahaw (Eagle Lord), and the name of the
standing figure, Kan-Tok'. The scene verifies the
VOS order and is one of the rare transitive verbs
in the inscriptions. Other verbs which can appear
with transitive inflection are "fish-in-hand (con-
jure)," *tz'ap* (to set something in the ground), and
"to scatter." The inflection pattern is a third per-
son pronominal sign prefixed to the verb and often
*-wa* as the verbal suffix.

Three examples from the Dresden Codex follow
the same VOS word order. In the first scene, God
B is shown holding a rope-like object surrounding
God K in a situation clearly identifying God B as
the agent and God K as the patient. The text
above this scene includes *hok'ah*, the verb, in posi-
tion 1, the patient (God K) in position 2, and the
agent (God B) in positions 3 and 4. In the second
example, three gods hold a *wah*, "bread" glyph in
their hand; the texts above each figure record a

verb in position 1, the object acted upon (the
bread) in position 2, and the actor in position 3.

In the third scene, a square-nosed beastie hangs
from a sky-band under which sits the young maize
god. The first glyph in the text is the sky glyph in
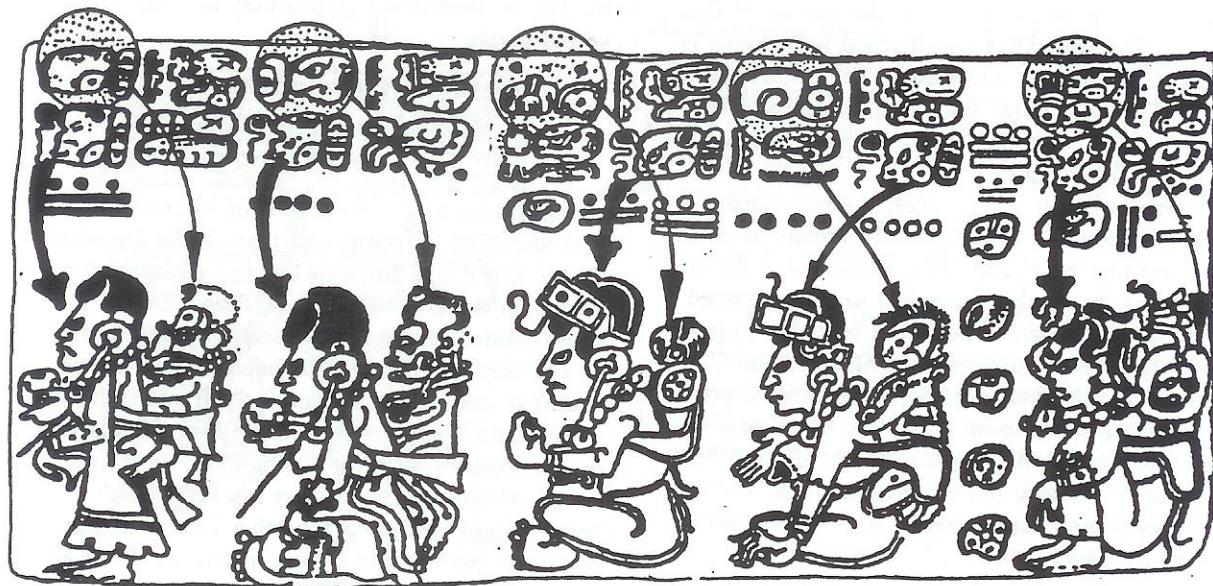
verbalized form; the second is the head of the squared-nosed beastie who hangs from the sky. The glyphs in third and fourth position name the maize god, perhaps as an aspect of God B since both name glyphs appear in the text. The first glyphs of this text may be paraphrased "skyed, the Square-nosed Beastie, God E-B" or "God E-B skyed the Squared-nosed Beastie." Again, the word order is verb-object-subject.

We have not yet answered all the questions about transitive constructions in the inscriptions; for example, there are still debates concerning transitive versus passive constructions. The conclusions about word order in which an agent and patient are clearly present must, therefore, be presented as tentative conclusions, but available evidence clearly points to a verb-object-subject word order. This word order can be used as an analytical tool when identifying the names of actors and patients, and it is a good basis from which to start syntactical analysis of new texts.

Object-Initial Constructions

The favored word order of verb-object-subject is not always used in the codices and inscriptions. For example, in the five scenes shown above, Goddess I carries a different object or individual on her back. As indicated by the circled glyphs, the names of the carried objects (patients) appear in front of the event glyphs, while the name glyphs of Goddess I (agents) appear behind. The word or-

der seems to be that of object-verb-subject. However, in each text, the sign appearing in Landa's "alphabet" for the letter U is prefixed to the event glyph. In Mayan languages, there are two sets of pronouns: (1) Set A which function as the subjects of transitive verbs and the possessors of nouns, and (2) Set B which function as the objects of transitive verbs and the subjects of intransitives. In Yukatek, *u* is the third person pronoun of the first set; it marks the second glyph in these texts-the event glyph--as a possessed noun. These kinds of constructions are called **statives** by linguists. The first three glyphs above Scene 1 would be trans-

lated into English as "God B is the burden of Goddess I." The equivalent construction in Yukatek is "God B, her burden, Goddess I" or "*Chak u kuch Ix Chel*". (In English, the construction requires the the stative verb "is" to make sense; this is not necessary in Yukatek).
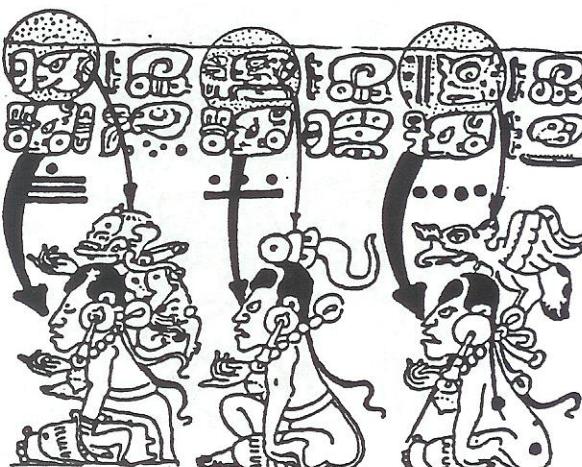
In the second set of examples, the possessed noun in position 2 was read by Knorozov as *mut*, the word for "bird" and "prognostication." As in the scenes above, the antecedent to the possessed noun, or the "prognostication" is recorded in position 1 and shown atop the head of the Moon Goddess, who is the antecedent of the possessed pronoun and named in position 3. The three texts read "God A [is] the prognostication of the Moon Goddess," "Itzamna [is] the prognostication of the Moon Goddess," and "Moan [is] the prognostication of the Moon Goddess."

Other Clause Initial Glyphs

In the Classic inscriptions, most texts begin with calendric data in the form of a Calendar Round, a Long Count, or a Distance Number; the remaining part of a complete clause follows the word order established above. In the codices as in the example below, directional glyphs may also precede the verbal glyph.

Some Parts of Speech
Locative Prepositions

Prepositions used with glyphs of location were first identified by comparing texts in the Dresden Codex to the sign for *ti* in Landa's *ma in k'ati* example. In the first of the illustrations, God B is shown seated in a series of locations. In frame 1, he sits atop two pillow-like shapes, which are repeated in the text in position 2. In frame 2, he sits within a tree, and Glyph 2 above him records *yax-te*, the Yukatek term for "ceiba tree." In frame 3 he sits within a curved object marked by *kab* "earth" signs, and as in the other examples, the glyph for this location occurs in position 2. In all three texts, the glyph in position 1 is the event glyph, apparently recording that the protagonist "is located" somewhere, and as already demonstrated, the glyph in position 2 names the location. Given this kind of phrase, you could expect both in English and Mayan languages to find a preposition (or "locative") placed between the verb and location, as in "he sits in a tree."
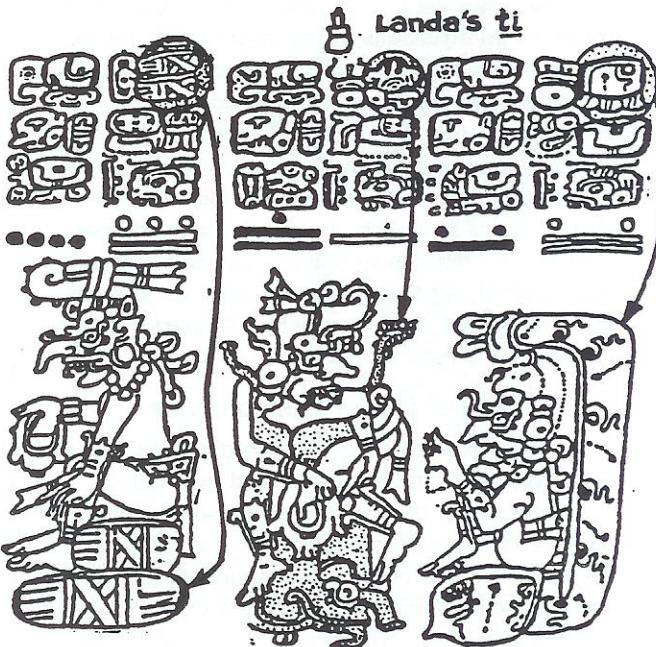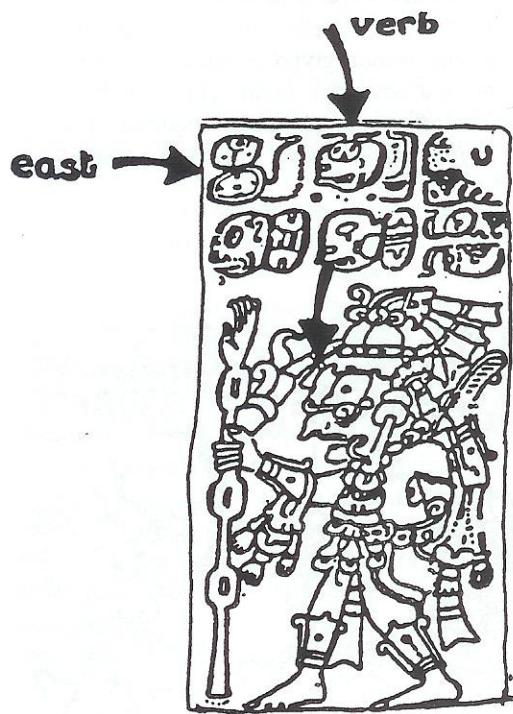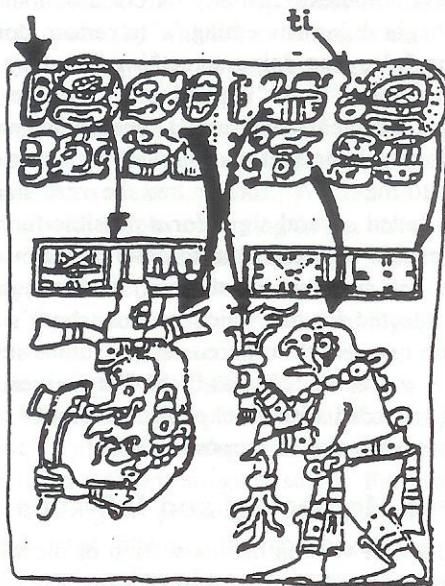
In all three texts, a sign stands between the location verb and the glyph recording the object on which or in which God B is shown, exactly where a preposition is expected. Thompson and many others noted that in frame 2 the glyph between the verb and the *yax-te'* glyph corresponds to the sign recorded for *ti* in Landa's *ma in k'ati* example. *Ti* is a general preposition, meaning "in," "on," "from," "to," etc., with wide distribution in the Mayan languages. We can assume that other signs appearing in structurally equivalent positions are also locative prepositions.

For example, the sign prefixing the pillow-like shapes in Frame 1 above also appears prefixed to the "sky" glyph above a picture showing God B hanging from a sky band. The text above the scene reads "in the sky God B," exactly matching the scene. Next to this scene is another, showing a macaw holding burning torches below a sky band.
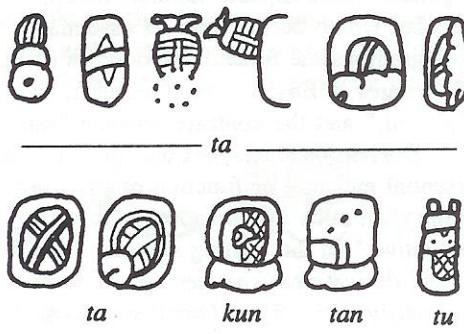
The text above this scene reads *u k'ak'* "his fire," *ti ka'an* "in the sky," *K'an-??-Mo'* "4-??-Macaw."

The chart above lists those signs which are now known to appear in the codical and inscriptional contexts that identify at least one of their functions as that of a locative prepositions. A great number of these signs appears in contexts that confirm their phonetic value as *ti* or *ta*.

Person Markers or Pronouns

As mentioned previously, Mayan languages have two (more rarely three) sets of pronouns. In English, pronouns are distinguished in use according to whether they are the subjects of verbs, objects of verbs, or possessors of nouns. The pronoun we use as the subject of a sentence remains the same, regardless of the transitivity or intransitivity of the verb. For example, we say "he slept," "he hit him," and "his dream." In Mayan languages, however, pronouns are used in what linguists call an "ergative" pattern in which the choice of pronouns depends on the transitivity of the verb. One set, usually called Set A or the Ergative Set, is used as the subject of transitive verbs and the possessors of nouns. A second set, Set B or the Absolutive Set, is used as the objects of transitive verbs and the subjects of intransitives. In Yukatek and Cholan languages, thought by most epigraphers and linguists to be the languages of the inscriptions, Set A pronouns occur in front of the verb, while Set B pronouns are attached to the end of verb roots. If English used pronouns in the same patterns as these languages, we would say "slepthim," "he hithim" and "he dream (his dream)."

Landa's "alphabet" again provided the first identification of a glyph corresponding to one of these pronouns. The allograph of Landa's U occurs in the codices prefixed to nouns in exactly the position expected for a possessive pronoun, and the third-person pronoun of Set A in Yukatek is *u*. Thus, there is a sign which we can say "ought" to be a pronoun because of where it is found, and Landa provides a phonetic value for that sign that is exactly that of the appropriate pronoun in Yukatek, the language of the codices. As with prepositional signs, we can identify a structural position that we know has a possessive pronoun; therefore, any other sign which substitutes for Landa's *u* in exactly the same position ought to be another pronominal sign, and because of the gram-

matical structure of Mayan languages, we know that any pronoun that possesses nouns is also one of the set that functions as the subject of transitive verbs.

The list below summarizes those signs which appear in these and similar contexts. Most of them freely substitute for T1, the allograph of Landa's *u*, so that we assume they all record the third person of Set A, although evidence for their phonetic values is less secure. Since no signs for first and second person pronouns have been identified, even tentatively, we presently assume that Maya texts
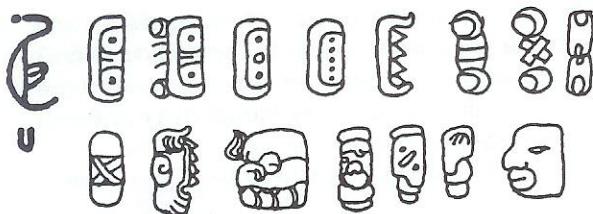
are recorded in the third person, a pattern to be expected in the inscriptions that are primarily historical narratives.

David Stuart has recognized a first person pronoun, *in* or *ni*, in direct quotations incorporated into the scenes on pottery. The second person *a* may eventually be found in the same kind of texts.

No pronominal signs of Set B, the subjects of intransitives and objects of transitives, have yet been identified. However, the absence of these signs is expected because the third-person pronoun of this set in all Mayan languages is -0 or silence. Since the spoken languages have silence, we would hardly expect to find a third-person Set B pronoun in the writing system.

Tense-Aspect Markers

Lounsbury (personal communication 1978) has suggested to me that some of the signs above may record conflations of an aspect marker with a Set A pronoun. Aspect is another feature of the Maya languages that English speakers have trouble understanding, since we tend to deal with the tense of a verb more than with its aspect. Tense marks a verb according to a distinction of time--in other words, for the past, present, or future. Aspect is a category of inflection indicating an action or state as inceptive, continuing, terminating, etc. In Eng-

lish, aspect is indicated chiefly by constructions like "to begin doing something," "to remain doing something," "to stop doing something," and by the progressive form, as in "is playing." Maya languages use both tense and aspect, but of the two, aspect is more important and marked by a particle preposed to the Set A pronoun and the verb stem. We have tested several signs for a possible function as "aspect" markers, but to date, we have not identified any sign that has the kind of distribution pattern expected for this function. Lounsbury's suggestion may prove to be correct in future studies, but at present it looks as if the Maya inscriptions are recorded without explicit marking of aspect through the use of preposed signs.

Verb Morphology and Inflection

Since the first version of this section of the workbook was prepared, a great deal of work has been done on the morphology of verbs in the writing system. My book, *Maya Glyphs: The Verbs,* is an attempt to look at the distribution and forms of glyphs that appear in the structural position of verbs. Barbara MacLeod in her Masters' thesis here at UT has followed my work by associating the patterns of distribution I found with grammatical forms in the Yukatekan and Cholan languages. Victoria Bricker's 1986 *A Grammar of Mayan Hieroglyphs* has identified other patterns of verbal morphology in the inscriptions to those of the spoken languages. I refer any participants who are interested in a more detailed look at the verb morphology of the writing system to these works.

In the study of verb morphology, there are a number of important terms which we non-linguists either do not know or misunderstand. These terms, **inflection** and **derivation**, refer to changes that verbs undergo for different kinds of functions. **Inflectional** changes are those that mark a verb for case, gender, tense-aspect, number, mood, voice, etc., but which do not alter its essential meaning or grammatical function. Examples of **inflectional** changes in English are "George*'s*," "flip*s*," "play*ed*," and the contrast between "ran" and "run." **Derivational** changes are those that alter the essential meaning or function of the word to something else, such as "*un*happy," "inform*ant*," "deriv*ative*." In the writing system, these inflectional and derivational changes appear to be marked primarily with affixes (smaller subordinate

signs) attached to the main signs and by the use of auxiliary verbs (by which I mean verbs that help form the mood, voice, tenses, aspects, etc., of other verbs).

A large number of these types of affixes and some of the verbs which can function as auxiliaries have been identified, usually based on their association with glyphs occurring in the structural position of verbs. Our major problem is that these affixes appear to record phonetic sounds, that is a syllabic form such as -*ah*, without having fixed semantic value. In other words, T181 *ha* combines with the stem to form the suffix -*ah* and while T24 combines with it to for a -*vl* suffix. As purely phonetic combinations, the signs themselves cannot be taken as morphological suffix. Furthermore, knowing the phonetic values does not mean we know what inflection we have because a particular sound configuration can have more than one function, as with -*vl*, which is a derivational affix for nouns and attributives and as well as an inflectional ending on verbs.

The chart below lists some of those affixes believed to function as either derivational or inflectional affixes on verbs and the phonetic values most epigraphers believe them to have.

One other major pattern of verbal affixation is to prefix *u* or an equivalent sign (see the previous section) to the verb, either with or without the suffixed patterns above.

In the last several years, more linguists have become interested in the study of the writing system. They bring to the field expertise about the Maya languages and their structures that are relatively new to the study of the writing system. I anticipate we will see important breakthroughs in this kind of study during the next few years.

One other piece of information is of interest to the linguistic view of the writing system and its verbs. Until 1980, all the linguists to whom I had talked told me that Mayan languages, including Yukatek and Cholan, were ergative and that we ought to look for the kind of pronoun patterns associated with these kinds of languages--that is, one set of signs possessing nouns and prefixed to transitive verbs, and a second suffixed to verbs as the subjects of intransitives and objects of transitives. At the 1980 *Palenque Round Table,* Vicky Bricker suggested that we should look for a different pattern based on a new understanding of Yukatekan and Cholan grammar that had been growing among many linguists.

This alternative pattern is called the "split-ergative," because the use of the pronoun sets depends, not only on the transitivity of the verb, but also on its tense-aspect. In this system, Set A pronouns are used as the subjects of both transitive and intransitive verbs when they are in the "incompletive" (imperfective) aspect. The pronouns split into the ergative pattern when the verb is in the "completive" (perfective). If this pattern existed in English, the sentences "he was hitting him" and "he was sleeping" would employ the same preposed pronouns as subjects, but "he hit him" and "he slept" (the completive forms) would be "he hithim" and "slept him," utilizing the "ergative" pattern in the completive aspect. Bricker's suggestions seem to fit the pattern of pronoun use in the writing system more closely than does a straight "ergative" pattern. This kind of question will become the focus of linguistically oriented studies in the coming years and provide detailed understanding of the grammar and syntax of the writing system that are not part of the results of earlier kinds of approaches.


u ... wi, u ... wa
transitive

ha, ah
passive

hiy, ihi
intransitive comp.

-*lah,*
positionals

-*wan*
positional
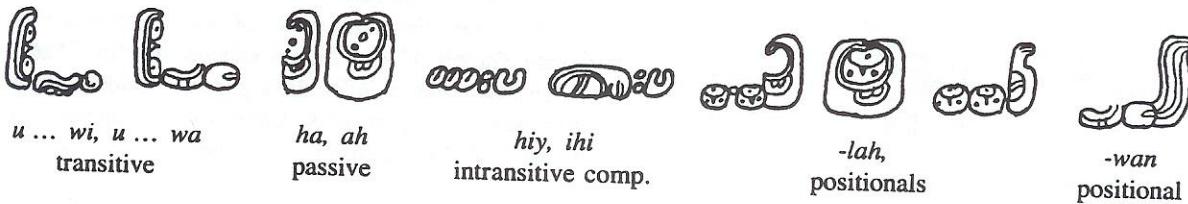
The Temporal Indicators

Ut "It happened"

Thompson first noticed two glyphs occurring with Distance Numbers and dates in a pattern that marked relative temporal position of two dates. He called these glyphs the Anterior and Posterior Date Indicators. Furthermore, because he argued that one of the constants in these glyphs, the head of a mythical fish called *xok*, was used as a rebus for the verb "to count," he paraphrased the ADI and PDI as "count forward to" and "count back to." Accepting his identification of the "count/*xok*" rebus as one of the most secure readings in Maya studies, many epigraphers used the paraphrases "count since" and "count until" or "count to and from."

In 1985, David Stuart began to note patterns of substitution that not only produced a different reading of the *xok* glyph, but also explained the function of the ADI and PDI as a grammatical and literary feature documented in both colonial and modern Maya languages. David noted each of the signs that substitute for the *xok* sign in the ADI/PDI also occur as the third person pronoun *u* in other contexts, including *xok* itself and the day sign *muluk*, the other frequently used sign. This inventory of signs includes T1 and its set of substitutions. David speculated correctly that the first
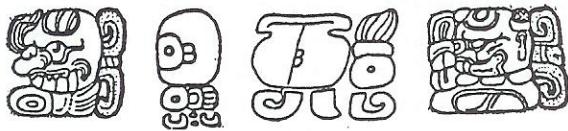
utix "it had come to pass," "he had died"
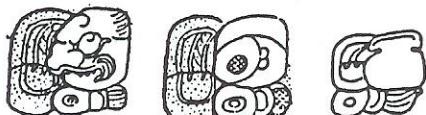
iwal ut "and then it came to pass"
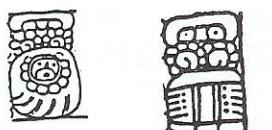
utom "it will come to pass"

sound of the ADI/PDI might be *u* followed by phonetic *ti*, to give the term *ut* or *uti*. Looking for this term and its Yukatek cognate *uchi* in dictionaries and colonial documents proved to be productive for *ut* means "to happen or to come to pass."

Two year earlier, John Justeson and Will Norman had found another key to the puzzle. The ADI always has T126 suffixed to *ut*, while the PDI has T679 prefixed to *ut*. T126 is also called the Anterior Event Indicator because it occurs as the final suffix on the earlier of two linked verbs. T679 occurs before verbs in the same way when they are the later of two events. Justeson and Norman noted that T679 occurs in exactly the same positions filled by the word *iwal* in the *Akalan Chontal* document. *Iwal* is used both as a progressive to mark that the action is on-going at the time indicated by the narration and as the conjunction "and then." Together with *ut*, the PDI reads *iwal ut* "and then it came to pass." [Addition 1991] At present I accept the *iwal* for this prefix because it is spelled out syllabically as *i-yu-wa-la* on Copan Stela J and on a fragmentary panel from Pomona.

Kathryn Josserand and Nicholas Hopkins found another of the keys. In modern Chol, there is a special suffix that always occurs in the final suffix position on a verbal stem that marks the action as in the *plus cuam perfective*. This suffix, *ix*, is used with verbs, adverbs, and time periods, to mark that they are completed with the sense of being ended before another action begins. [Addition 1991] Kathryn and Nicholas still accept the reading of *ix* for T126. Over the last two years, I have found myself coming to accept the explanation David Stuart presented in his *Ten Phonemes* paper. There he suggested that T126, which most epigraphers accept as *ya*, functions to reinforce the final *i* from the *ti* glyph. In other words, the two syllabic signs, *u* and *ti* by themselves give only *ut*; to get the pronunciation *uti*, the final *ya* is required. I became convinced he was correct when I saw, as he had done, that a T24:713 "appear" verb on the north panel of the east door of Copan Temple 11 has T17 *yi* substituting for T126 *ya*. In that context, *ix* is not a possible reading. However, I do agree with Kathryn and Nicholas in that both T126 and T17 function as *plus-cuam-*

Copan T11 — yi

Pal. TI east — ya

Pal. TS

Pal TS -wan w/o ya
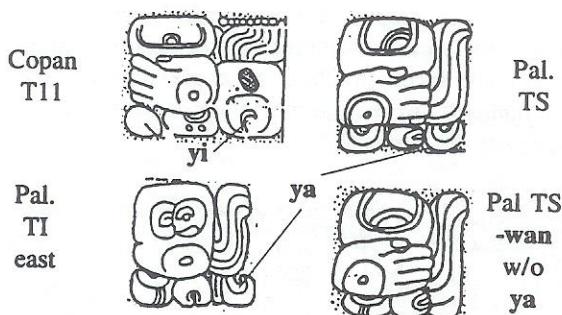
perfectives because in the Copan example and many others, these signs are regularly added to the suffix *-wan*, the perfective for positional verb. This final *i* would not be required for *-wan* unless additional inflectional information were being added.

The last segment in the pattern was found simultaneously at the Cleveland State University Symposium on Maya Writing and by Ben Leaf in October of 1988. This glyph was first noted by Berthold Riese at Copan as a sign particularly associated with quarter-k'atun dates. In 1986, David Stuart suggested to me that the glyph had to represent a future tense of some kind since it always preceded the record of the k'atun in which a particular event occurred, but at the time of the narration, the event was not yet completed. The glyph includes one of the many signs for *u*, T44 *to*, and either T502 *ma* or T140 *-vm* to give *u.to:m(a)*. I presented this information to the participants at Cleveland, concluding that we had be able to find no satisfactory reading for the root *tom*. A surprised expression of recognition flashed across Terry Kaufman's face as he recognized the verbal inflection. He explained that *-om* is the future participial in Chol and that the reading is *ut-om*, "it will happen." In a truly extraordinary coincidence, Ben Leaf had come to visit me in Copan the day before I left for the Cleveland Workshop. When he saw an example of the *utom* glyph on a fragment, I gave him the same information I presented in the Workshop. Independently and simultaneously, Ben identified the same glyph as the future inflection of *ut* and left me a note explaining his idea. The reading must be cited to both Terry Kaufman and Ben Leaf. The PDI then reads *iwal ut* "and then it came to pass," while T679 with any other verb reads *iwal* meaning either "and

then" or that the action is on-going at the time indicated. The ADI reads *ut-iy* [or *ut-ix*], "it had come to pass" and, with a verb the paraphrase, it is best paraphrased with the English auxiliary verb "had" as in "he had been born," "he had acceded." This is the sense of "since" with the action, especially when a Distance Number linked the marked verb with a later event or date. When the PDI is followed by a date, that date is the subject of the verb *ut* giving a paraphrase like "and then 4 Ahaw 8 Kumk'u came to pass." Finally, *utom*, "it will come to pass" is used when a current historical event is linked to a future one, especially the end of k'atun or bak'tun. [**Addition 1992:**] Last year David Stuart and Stephen Houston circulated evidence that the "chuwen" count glyph reads phonetically as *uht*, so that we now know this glyph is simply a different way of spelling the *ut* verb.

Known Glyphs and Expressions

I am often asked to estimate how much of the writing system is now deciphered. I must always answer that it depends on what you mean by deciphered. Some glyphs can be translated exactly; we know the original word or its syllabic value. For other glyphs, we have the meaning (for example, we have evidence that a glyph means "to hold or grasp"), but we do not yet know the Maya words. There are other glyphs for which we know the general meaning, but we haven't found the original word; for example, we may know it involves war, marriage, or perhaps that the event always occurs before age 13, but we cannot associate the glyph with a precise action. For others, we can only recover their syntactical function; for example, we may know a glyph occurs in the position of a verb, but we have no other information. To me the most frustrating state is to have a glyph with known phonetic signs, so that we can pronounce the sign, but we cannot find the word in any of the Mayan languages. If a glyph is unique or occurs in only a few texts, we have little chance of translating it. The following chart illustrates a selection of the most important glyphs for which there are decipherments of one kind or another. I have included some of the major events, titles, and relationship glyphs that are basic to the recovery of historical information. Please remember that these identifications result from the re-

search and insights of many different scholars, and that any list of this kind can only represent what is known up to a particular point in time.

Royal Life

Proskouriakoff identified this upended frog as an "initial" event, but most epigraphers now accept it as "birth." Its phonetic value is in dispute, but in the Madrid Codex, this animal and snakes are shown belching up a series of supernaturals. The verb in the associated texts is phonetic *sih*, Yukatek for "birth." The "belching up" and perhaps the upended position of the head seem to refer metaphorically to birth. I suspect that the glyph is a logograph for "birth" and was read as the locally appropriate word for "birth." [**Addition 1991**] Last year, Nikolai Grube discovered that the "birth" frog is phonetic *hu* in good percentage of its occurrences. He further identified the central example as *hu-li*, forming *hul*, "to arrive." With T126, it is *huliy*, "he had arrived." Most of the other occurrences of the "birth verb" have a *hi* as in the right example, or *ha* plus *ya* as on the left. There are two words used for "birth" that fit this complement pattern: *sih* "to be born" and *yih* "to sprout." I do not know which was intended because while we have many examples of a *sih(i)* in parentage statements, one example of "birth" carries *yi-____-hi* complements on the west panel of the Temple of Inscriptions. Right now I favor the *sih*, but final judgment must wait until we find a completely clear substitution.
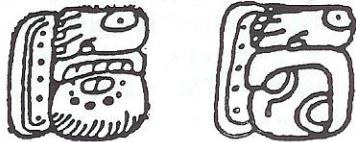
Floyd Lounsbury recognized this glyph as a substitution for the "birth" glyph above and associated it with a metaphor for "birth" still existing in

Chol. It is composed of a pronominal sign, a hand, and "earth," written in either its logographic or phonetic form. In Chol, the expression for birth is *il pañamil* "to see the world" or *u käb pañamil* "to touch the earth."
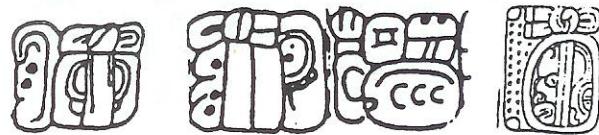
1989: Proskouriakoff identified T684 as "inauguration," an interpretation now widely accepted. Recently, the identification of *ho* and *k'u* complements associated with this glyph confirm its value as *hok'*, a valued first proposed by Wolfgang Cordan in 1963.
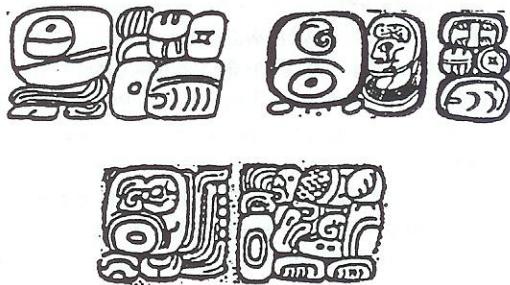
Berlin identified T644 as an "expression" for accession. We have known for some time that it means "to be placed or seated" because of its occurrence with the 20th day of the month. Bill Ringle has presented convincing evidence of its reading as *chum*, a reading accepted by Mathews because of the occurrence of a *mu* sign as infix. It often occurs with the *-wan* and *-lah* suffixes, known to mark positional verbs.

T700 represents the profile view of a lower body in the act of "sitting down." It seems to record the act of "seating oneself." We do not know, however, if it also reads *chum*, but with the *ya-ni*, a

suffix pattern that appears to go with verbs derived from nouns. The verb may simply be ahaw-

yan, "ahawed."
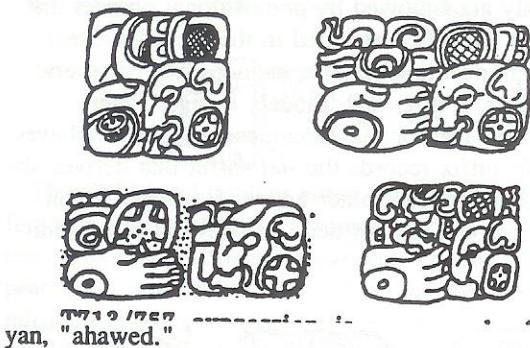
The T713/757 expression is composed of the rear view of a hand (*pat* "back" and "to take office"), and the title or office taken in this rite is recorded above the hand. In the first two examples, this title glyph is the knot from the T684 bundle; in the second, it is *sak winik* "resplendent or pure man"; and in the fourth, it is the Jester God, probably read here as *ahaw*. [1989 Addition:] Barbara MacLeod has recently suggested that all of the objects in the hand are associated with the royal headband. Following Bricker's suggestion that T89.T757 reads *tu ba,* the reflexive, she suggests that this accession reads "he crowned himself." I think it is a very good suggestion. [1991 Addition:] Last summer, Peter Mathews, Floyd Lounsbury, and I confirmed the idea of this read-

ing on the Palace Tablet (see *Texas Note 4*). Looking at the clauses repeating the death of Pakal and Chan-Bahlam, we realized that they read *hamaliy* and each was followed by a compound with sak and the Jester God. I had always taken the Jester God to stand for the king, but it occurred to us
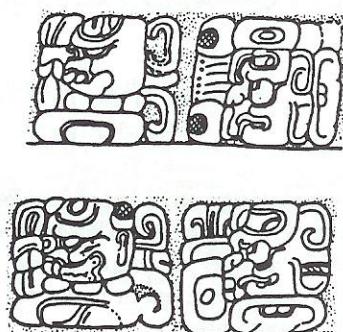
that here it should be referring to the headband. We looked up *ham* in the Chol dictionary and found it means "to open." Thus, to accede is to
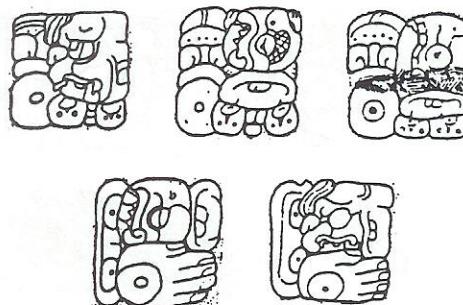
"tie on" the headband. To die is "to open" it.

[1991 Addition:] Nikolai Grube's reading of the T740 birth frog as *hu* now gives us a syllabic spelling for this headband. On the Temple of Inscriptions middle and west panels, the Jester God is replaced in two contexts by its syllabic spelling. In both contexts, it is replaced by *hu-na*, while in the second (middle and right), it has a *la* attached to both the iconic and syllabic forms of the *hun*. The headband was thus *sak hun* or *sak hunal*. *Hun* means "one, paper, and book" in both Yukatek and proto-Cholan and in Yukatek, it means "a general or universal thing" and "to care for something." Since the Jester God has the same *na* suffix when its records the office of ahaw on the east panel of the TI, I believe his name was simply *Hun*, perhaps "The One." The headband was *sak*

hun(al), "the white paper" or the "resplendant One."

This phrase seems to be an elaborated version of the one above. It occurs with Shield-Jaguar of Yaxchilan and Two-Legged-Sky of Quirigua. The sign above the T713 hand is a "mirror," an expression referring to the "taking of office." The second glyph "fish-in-hand" refers to blood-letting rites

that were conducted for accession. **[1991 Addition:]** Nikolai Grube circulated a letter in November 1990 in which he identified the glyphs between the verb and the *tu ba* as the name of the
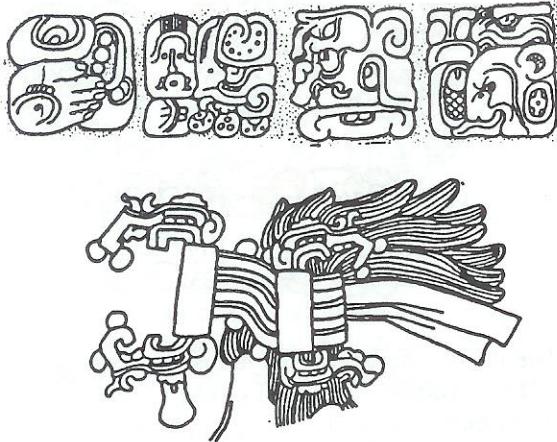
headband tied on by each king.

1991: A similar phrase is recorded on the Palace Tablet for Kan-Hok'-Xul of Palenque. Here, however, the glyphs recording the name of the headband are different. Werner Nahm and Nikolai Grube have read the ahaw-*ki* as *nik*, the word for "flower." This headband should have flowers associated with it, and in the scene, the two flanking
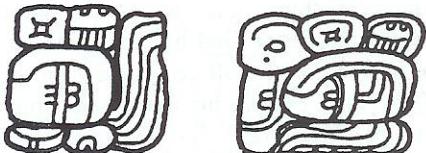
figures wear waterlily headdress, while Kan-Hok'-Xul wears the headband shown above.

The T518 glyph is a fully expanded version of ahaw which is derived as a verb by the -*ni* suffix. This form is used for accession at Naranjo and Palenque.

The Affix Cluster and Titles

Many of the accession phrases discussed previously are followed by prepositional phrases that record the office assumed in the recorded event. This prepositional phrase includes one of several locatives, a title, and Landa's *le* sign. Peter Mathews (personal communication, 1990) believes this *le* suffix records the -*lel* suffix that derives abstract nouns from other nouns. He suspects that the final -l is not written as in several other simi-

various forms of *ahaw*

T1030o *hun* does not use *le*

"chak-te"[1] iconic and phonetic forms
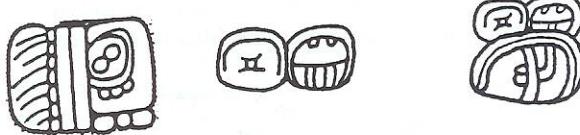
sahal, subordinate

Ahaw in the T618 and T168-518 forms

lar phonetic contexts. In other words, *ahaw* is "lord"; *ahawle(l)* is "lordship." These same glyphs can also occur in anniversary expressions, while the plain forms occur as titles in name phrases and in "numbered k'atun" titles.

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1   David Stuart first identified this glyph as a substitution for the "batab" title and he identified the head variant as the god Chac. I suspect the title may have read *chac-te'*.

2. Peter Mathews and John Justeson first identified this title for secondary lords and territorial governors, while David Stuart contributed a detailed study of its distribution. In the past, we have read the title *cahal*, but it has become increasingly evident from DAvid Stuart's and Nikolai Grube's work that its actual value was sahal. Nikolai has suggested it is derived from the root sah," to fear," and means "one who has fear." Barbara MacLeod believes it may relate to the root *su*, which means "to make a vow" and means "one who has made allegiance."

Pal. T14

PN, Lintel 3
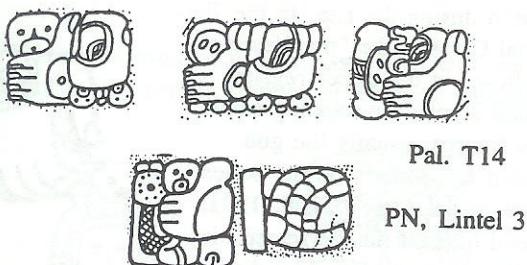
The T670 hand holding either T533 *ahaw* or the forehead mirror of God K records a ritual that occurred on many different occasions. The hand appears to record "grasp" or "hold," and the God K mirror refers to the God K scepter. We now have evidence that this glyph refers to the rite of displaying God K, an act that occurred at accession and other major events. The glyph does not, therefore, refer specifically to accession, but to a rite that could occur on that occasion. **1989:** The type of object or scepter held is often specified in the glyph following the T670 hand. **1991:** I have been particularly interested in this verb since the earliest workshops. In 1986, I presented the full pattern of its distribution to a conference at UC Santa Barbara, where I showed an example from Piedras Negras that carries a phonetic complement of *ch'a.* I suggested then that is *ch'a,* a verb for "to

Anniversary Events

homi	*u hun k'atun*	*ta ahawle*
was completed	the 1st katun	in reign

homi	*u hun k'atun*	*ti chak-te-le*
was completed	the 1st katun	in reign

homi	*u ho tun ta*	*ti ahawle*
was completed	the 5th tun	in reign
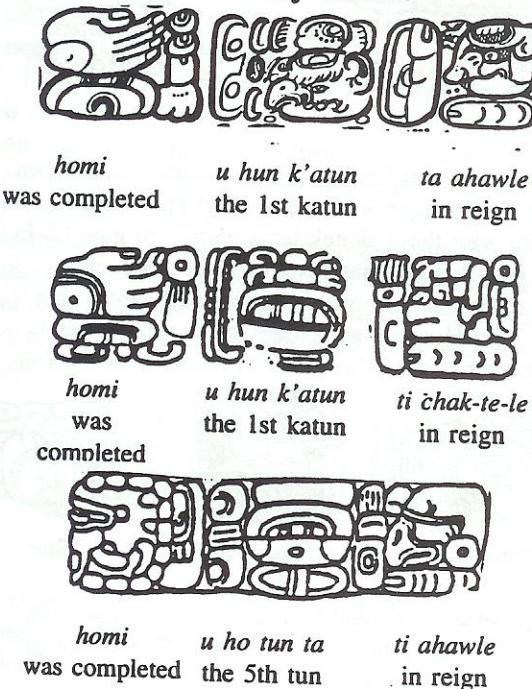
take" in Yukatek. David Stuart and Nikolai Grube have both pointed out examples with T140 *ma* as

took office as *yok te*
"heir-designation"

yokte'k'in-k'in
"heir-designation"

"deer-hoof"
event of
children
and youths
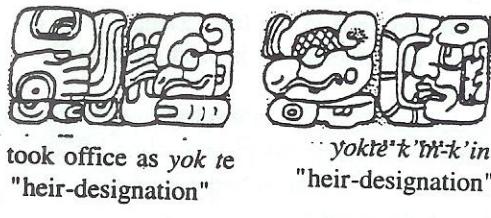
a suffix and suggested it is *ch'am,* "to receive" in Chol Chol. The verb is then "it was received" with the object recorded in the hand or just after it.

Other Rituals

Building and Monument Dedication

These events are found are many sites in texts recording the dedication of stelae, altars, and buildings. David Stuart has suggested that the verb in the first example read *och butz'' ,* "entered smoke." as a reference to the censing of houses in

1

2

3   4

5
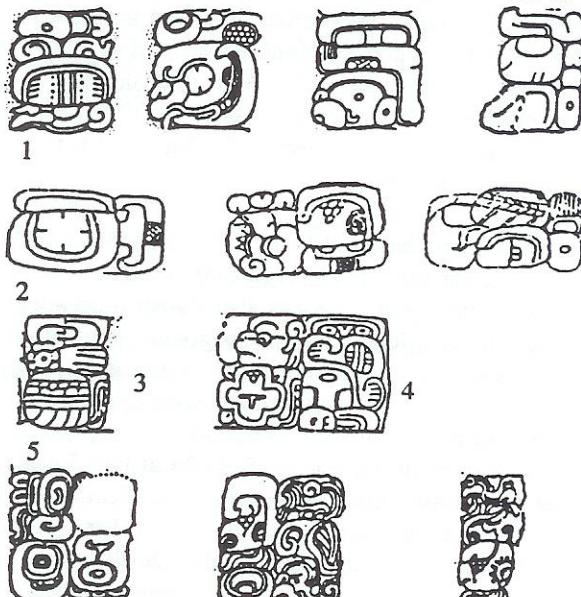
dedication rites. The verb in the second example appears to refer to the placing of lip-to-lip caches under the floor of the building dedicated. Nikolai Grube read the verb in the last example as *tz'ap*, "to set into the ground." It is used specifically with stelae.

These dedication phrases usually use a formula that includes the verb, the proper name of the object, *u k'aba* ("is its name"), the kind of object named, and the owner.

Events in the Bloodletting Rite

1991: Nikolai Grube has found a syllabary spelling of "fish-in-hand" on Yaxchilan Stela 25. His discovery confirms that the phonetic reading is *tzak*, a term that means "to take hold of" and "to conjure demons." As Nikolai, pointed out, the Spanish would have classified Maya visions and
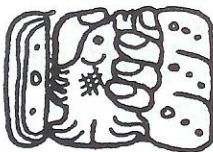
way (nawals) as demons. The "lancet" appears to refer directly to the act of taking blood. We do not know its reading, but at Yaxchilan, it occurs with *ch'a* as a prefixed phonetic complement. At Copan, Nikolai and I were able to confirm one example on Altar A' where the little sign attached to the blade is a wing, and thus either *ch'a* or *k'i*. Perhaps the word ends in a *ch'* with an internal vowel of *a*. **1992:** During the summer 1991, we found phonetic complements showing T712 was *ch'am*, "to harvest."

David Stuart believed he had found phonetic substitutions for this "scattering" event reading *mal* "to sprinkle liquid." He has also shown a network of interlocking iconography and glyphic contexts that identify this event as one of "scattering blood." It is a blood-letting rite especially associated with the celebration of period-endings, but he has shown from the text on Stela 25 at Dos Pilas that as a consequence of this rite, "the Paddlers were born by the act or the ruler." In other words, the act of blood-letting gives birth to the gods, perhaps by calling them into physical mani-

festion during the rite. In the Terminal Classic, the "manifesting" is shown in the upper register as dotted scrolls enwrapping small god figures, usually the god shown as paddlers on the bones from Burial 116 at Tikal. **1991:** David himself has corrected his earlier reading of *mal* by distinguishing the hand with the drops from another without. The latter, which he used in the *mal* reading, he demonstrated to be *ye*. Bruce Love showed that ch'ah, "drop," frequently follows the "scattering" hand. I still believe the drops most often represent blood, but now we know the sign is *ch'ul*. As a term for "holiness," it can refer to any substance, especially liquids, that belong to that category.

Events associated with War and Venus-conquest War
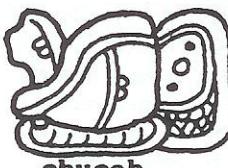
chucah
"to capture"
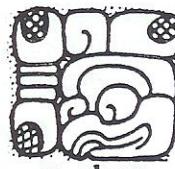
u chan
"captor of"

1991: Nikolai Grube, David Stuart, and Stephen Houston independently associated the "captor" glyph with the Yukatek term *chan*, "to guard." In the past this title has been taken to refer only to the relationship between captive and captor, but this year Houston and Stuart interpreted a newly discovered Dos Pilas panel to record this relation-

"star-over-earth"

"star-over-Seibal"

"Star"

ship between a royal heir and his guardian from another kingdom. "The guardian of" now seems the best paraphrase.

This set of events has been associated with war, stimulated by certain stations of Venus, especially

the first appearance of Evening Star and the point of eastern elongation.

Steve Houston has identified the second of the two glyphs above as a phonetic version of the logographic "flint-shield" glyph. **1991:** During the 1990 workshop, it became evident to many of us that the flint-shield was more than just an object. We believe it was the symbol of war, derived from the atlatl-shield icon borrowed from Teotihua-

can at the time of the first great conquest war between Tikal and Waxaktun.
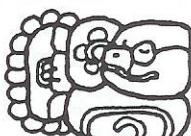
1991: We have known since 1977 that this verb is associated with heir-designation rites at Palenque and with captives and war events at Naranjo and Tikal. In 1990, Nikolai Grube demonstrated its phonetic reading to be *hub-i*, "it was downed" in the sense of to put or bring something down. In the war context, either a captive or the *tok'-pakal* of a captive were downed, and in the heir-designation, the young heir was brought down from the pyramid.

David Stuart has identified these titles as recording the number of captives taken, probably during the lifetime of the person named.

Death and Burial
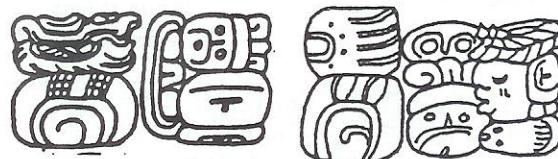
"wing-shell" death

1991: Proskouriakoff first identified this as a glyph for death, perhaps as a reference to the loss or flight of the spirit. David Stuart first connected the phonetic spelling of the wing glyph, *ch'ay*, with and entry in Colonial Tzeltal of *ch'ay ik'*, "extinguished breath." We still don't now how to read the second glyph, but it must record the element that is lost in death and one of the things a father transfers to his child. **1992:** The second glyph is *sak-niknal*, "white-flower," as a reference to the blossoms of the ceiba. The ik' glyph in this phrase appears twice on the Copan Hieroglyphic Stairs simply as *na-l(i)*. We now think that nal is the value of the ik' sign outside the day cartouche,
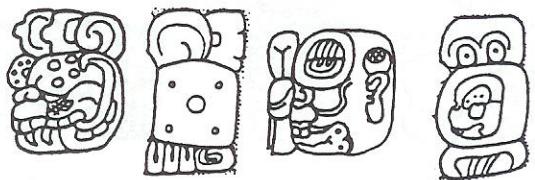
| "Q" Death | *hil*
to expire | *u cimil*
his death |

1991: Floyd Lounsbury identified the Quincunx death glyph although no satisfactory reading has yet been proposed. The knot-skull, normally *ha*, seems to be altered to *hi* by T679 and to refer to the Chol word *hil*, "to expire." **1992:** David Stuart has shown that the Q-event reads *och bih*, ""he entered the road." We know from the Group of the Cross at Palenque that this road was the Milky Way in its north-south form of the World Tree. In death, the soul of the deceased enters that road to the Otherworld.
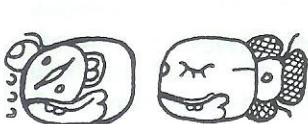
cimi, "he died"

u bah it way
"he went sleeping"

u huntan
the cherished
one of

yal
the child of woman

1991: Nikolai Grube and Werner Nahm confirmed the phonetic value of the *kimi* death glyph, while Stuart, Houston, and Grube discovered the reading of *way* for the "spotted ahaw." The soul goes into a state of sleeping or alternatively it is transformed into the Otherworld.

Peter Mathews first read these glyphs as *mukah,* "he was buried."

Relationship Glyphs

Chris Jones first recognized this as a relationship

glyph, but he thought it was a term for "son." Peter Mathews, Floyd Lounsbury, and I followed up on Chris's work at Tikal to find the same glyph and context at most other sites and using the grammar of Mayan languages and the distribution of the glyph in the inscriptions we determined that it had to mean "child of (man)." 1991: Nikolai Grube and Werner Nahm have circulated evidence that the ahaw glyph outside its cartouche reads *nik,* the word for "flower." They further proposed that this relationship glyph reads *u nichin,* a documented term for "child" in both Tzeltal and Tzotzil.

In his 1989 presentation at the UC Santa Barbara conference, David identified the T1.606:23 as *u huntan*. In Yukatek, *huntan* means "to care for something." The child or the god is, then, "the cherished one." David and many other epigraphers also associated the T670 "child of woman" glyph with its phonetic spelling T126.534, *y-al,* "her child" on the Naranjo pot published by Mike Coe in *Maya Scribe and his World.*

child of
parent

yunen
child of
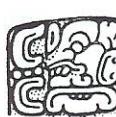
mother of

1991: David Stuart identified the function of the *yunen* glyph, while I realized that a term Nicholas Hopkins had identified as an relationship term from the Classic period was the reading of this glyph. Peter Mathews identified the "mother of" glyph, but we do not have a proven reading yet.

1992: The T712 "child of parent" reads *u lot* or *u bah ch'am,* "he went as the harvest of"

This glyph was identified as a relationship between man and woman by Knorosov, but Floyd Lounsbury found its correct reading, *yatan,* "wife of."


David Stuart identified these readings (below) for "sibling," "older brother," "younger brother," and "mother's brother." Barbara MacLeod had found the *yitah* dependently and I came upon the *itz'in* reading preparing for the 1988 workshop. These readings have proven to be very important to understanding the relationships between actors of the same generation.

yichan
mother's brother

yitah
sibling

sucu uinic
older brother
person

itz'i uinic
younger brother
person

sucu uinic
older brother person

itz'i uinic ch'ok
young brother person sprout

yitah yitz'in
the sibling of
the young brother of

yitah itz'i uinic
the sibling of younger
brother person
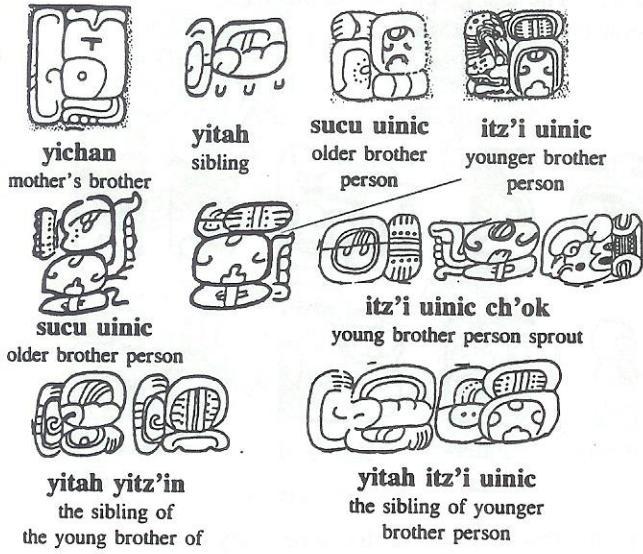
Titles of Kings and Governors

Ah Pitzlawal
He, the
ballplayer

Bakel Way
Bone Nagual

Bakab
The
Stood-up One

u bolon-kal tz'acab
the 29th generation
or successor

yo-???-k'in

mah k'ina
Great Sun

ch'ahom, "the dropper" (he who
scatters drops)
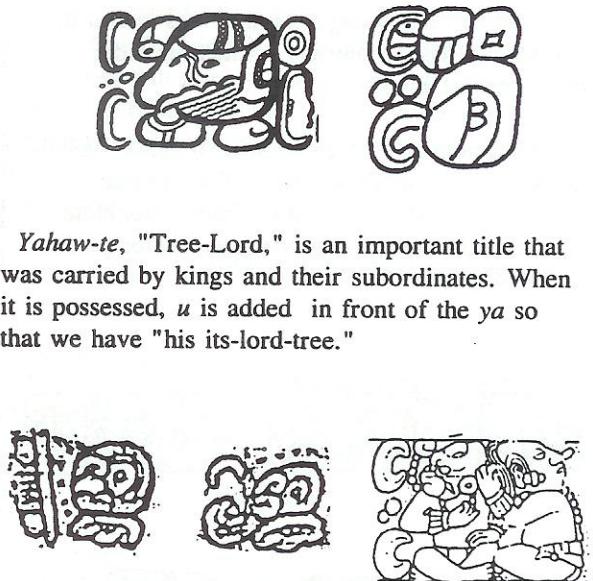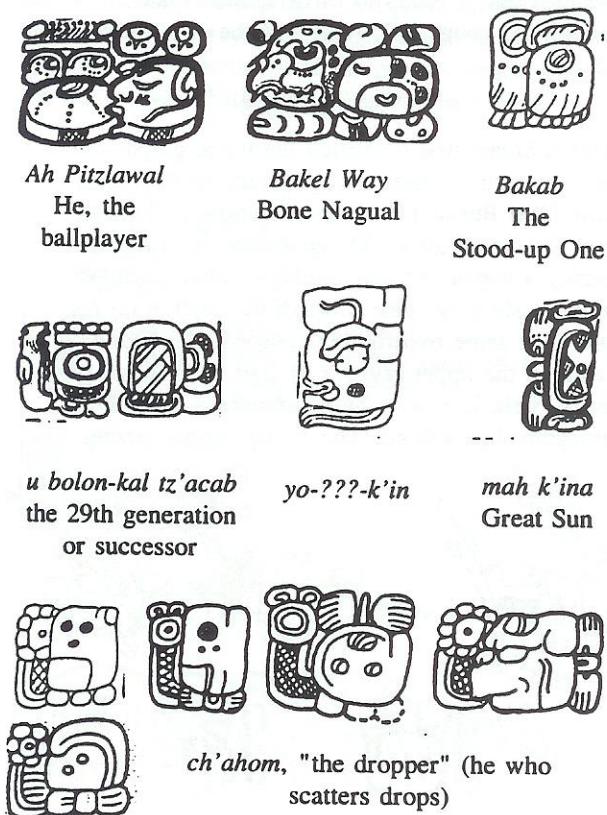
Yahaw-te, "Tree-Lord," is an important title that was carried by kings and their subordinates. When it is possessed, *u* is added in front of the *ya* so that we have "his its-lord-tree."

Steve Houston and David Stuart have just circulated a note identifying this title, *Ah K'ul Na*, and its possessed form, *Yah K'ul Na*. **1992**: I found that *ch'ul* is sixteen century Tzotzil for "brush, clean, cleanse, plane, polish, and purify. *Jch'ul-na* is glossed as "mason." I think it may have been the principal title for masons and architects. Moreover, the three people portrayed in the cartouches on the north and south ends of the sarcophagus have this title and I have found two of the names in other inscriptions. I think they were the master artists who designed the sarcophagus and the temple above it.
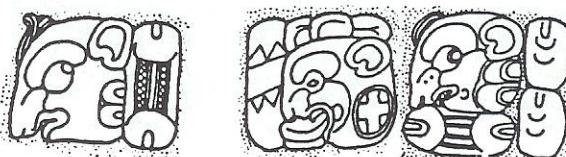
David Stuart and Nikolai Grube identified this glyph independently as a title for young people read *ch'ok*. Meaning "unripe" in Yukatek and "sprout" and "to be born" in Chol. The title was carried by members of the lineage who were not the king. At the 1990 advanced seminar while working with the Palenque groups, we noticed that

Kan-Balam became the *ba ch'ok* at his heir-designation and that his younger brother was seated in *ba ch'oklel*, "first sproutness," when his older brother became king.

In 1991 I noticed n large number of titles, including *ahaw*, *sahal*, and "sculptor," that are marked with the *ba*, "first," designation (see Texas Note 5). Apparently there was always one senior person designated the *ba* "first" member of that rank or profession.

Gods and Supernaturals
Palenque God Series
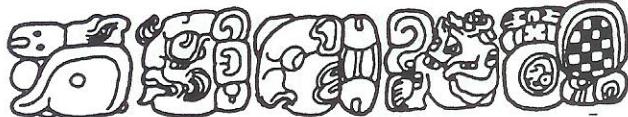
Hun Nal Ye [1] GI   *Ch'ok K'awil* GII   GIII

The Palenque Triad
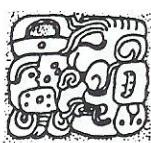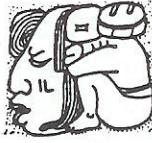
Ek' Wayib Chak   God A'   *Hun Ahau*

1991: In earlier analysis I had separated the "spotted-ahaw" from the Chak glyph, but David Stuart and Steve Houston have shown that this is a single name so that the old GIV and GV should be combined into one. The death head god corresponds to God A', a frequent actor in pottery

scenes. The last glyph was identified by Lounsbury as *Hun Ahaw*.

te-kuy   antler-vase   sky- god   *mixnal* or *mixnal winik*
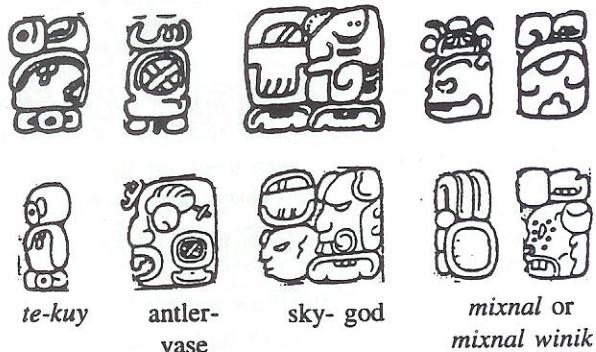
1991: This is a phrase that repeatedly occurs in Bird-Jaguar's name at Yaxchilan. We do not know the meaning of the *te-kuy* glyph. The vase compound often precedes god names and seems to go with the "sky god" name in the next glyph. Nikolai Grube and Werner Nahm read the last glyph as *mixnal*. Since it often occurs with the *winik* glyph, I suspect that it refers to Bird-Jaguar's clan through the geographic region of the city it controlled.

The Paddlers

David Stuart first identified the name glyphs of the supernaturals shown as paddlers on the bones from Tikal Burial 116. Iconographically, the Paddlers are distinguished by aged features with one bearing a jaguar ear and headdress, and the other having a stingray spine through the septum on his nose. The same two figures appear in the blood scrolls in the upper register of Ixlu Stela 2 and on Jimbal Stela 1, where the name phrase of each accompanies his portrait. The Jimbal name phrases

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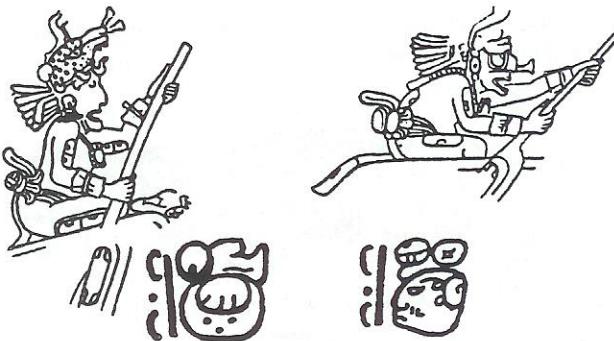
[1] See *Texas Note 6* for the full argument on this reading.

Ixlu Stela 2

Jimbal Stela 1

now been identified throughout the corpus as an extraordinarily important religious complex that first appears in Early Classic texts and iconography and persists until the 10th cycle monuments in the Tikal region. In glyphic contexts, they are especially associated with the "scattering" rites of period ending occasions.

Other Glyphs

east lakin

include a *na ho chaan* (*na* "five sky") glyph and a *na* sign attached to the rear of the glyphic portrait of the jaguar character. Using this *na ho chaan* glyph, the occurrence of the *na* sign with the name of the jaguar paddler, and the frequent use of portrait heads as their name glyphs, Stuart was able to identify the use of *ti* as a postfixed attachment to the Stingray paddlers name and to observe the frequent replacement of the portrait heads with *kin* and *ak'bal* substitutions. The Paddlers have

north **xaman**   na, nal

west chikin

Copan Stela P

Tonina M110

Tonina M42

Tonina M139

Copan Stela 6

south nohol?

Colors
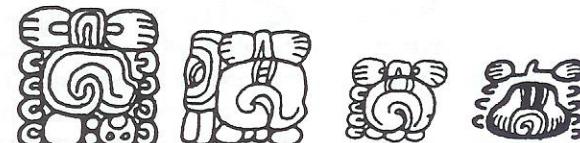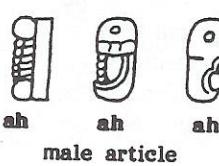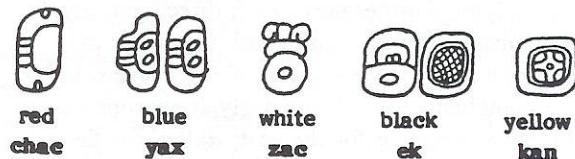
| red | blue | white | black | yellow |
| chac | yax | zac | ek | kan |

| ah | ah | ah | | na' |
| | male article | | | female article |

East
k'in

Northeast

Southeast

North

Moon

South

Lamat

Southwest

Northwest

West

Ak'bal
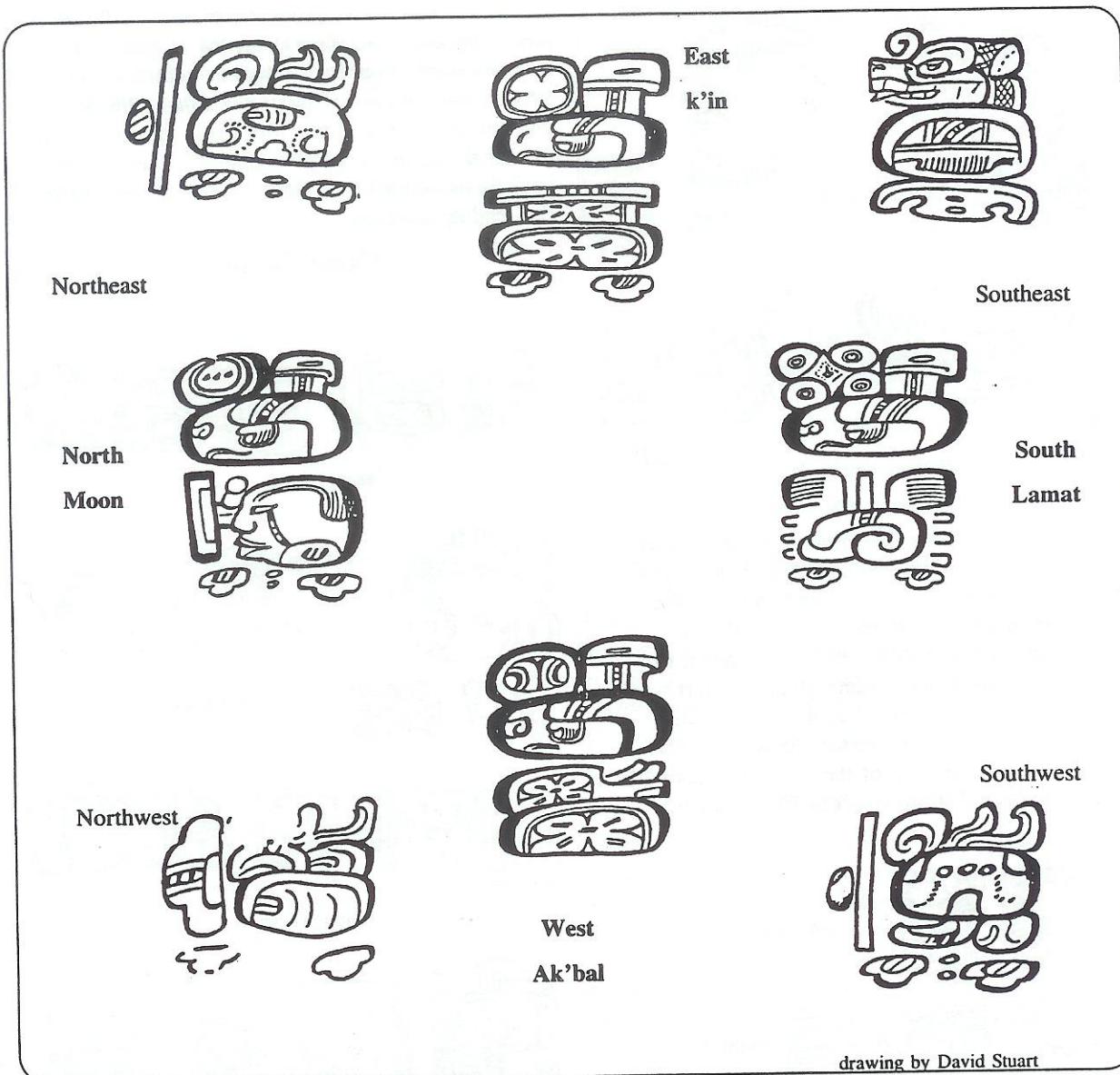
drawing by David Stuart

1991: The glyphs above come from the walls of a tomb found at Rio Azul in Guatemala. The directional glyphs were painted on the wall appropriate to each glyph. Furthermore, each directional glyph is accompanied by a "men" glyph (I believe to read *am,* a small stone used in taking auguries), and a combination of *ah* and a glyph appropriate to the direction: *k'in* for the east; *ak'bal* for the west; the moon for the north; and Venus for the south. Oppositional pairs in this system were seen by the Maya as important paired oppositions: east-west; *k'in-ak'bal;* north-south; moon-Venus. These oppositional pairs were used in Distance Number

Introductory glyphs to represent the concept of change and a newly discovered bench uses the symbolism of *k'in-ak'bal*/moon-Venus oppositions to symbolize the center of the Cosmos.

K'in-ak'bal

Venus-moon

Emblem Glyphs (Revised 1993)

Heinrich Berlin first noticed that certain glyphs are associated only with particular sites. He could not find evidence that securely proved them to be place names or lineage names, and in order to neutralize any meaning load concerning their function, he called them "EGs." Because no other glyph has the kind of distribution expected of place names and because it is unlikely that the Maya had no names for their cities, Kelley has argued that EGs must be place names. It turns out he was right.

Peter Mathews's work in the 1970s and 1980s built on Berlin's earlier observation by showing that EGs are titles referring to lords as ahaw of particular polities. EGs are composed of two sets of constants and one variable sign that refers to the polity. EGs have a set of constant signs that surround a variable main sign. The constants records a title, usually *ahaw* in one of three ways. In the most common configuration, T168 *ahaw* is placed above the main sign. This form of the title can be accompanied by T130 *wa* or by T130.178 *wa-l(a)* as a phonetic complement. In the first case, the title reads *ahaw-(wa)*, and in the second *ahwal*, a variant of *ahaw* glossed in Tzeltal.

Peter Mathews has noticed a very interesting
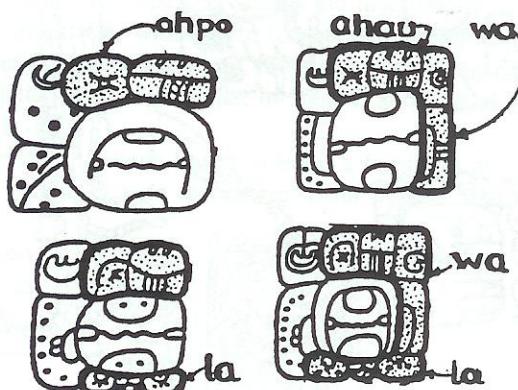
variation in the way this title is recorded on Lintels 35, 36, and 49 at Yaxchilan. The main sign of the Yaxchilan EG is normally a "split-sky" or a jade earflare. In the Early Classic version, the sky

sign appears above the largest of the glyphs, in the position normally held by the T168 sign. The sky is ripped in half with the right, inner edge shown as a ragged contour. An *ah* sign, one of two signs in the T168 *ahaw* title, appears to the right of the "ragged-sky" and above the T518 glyph and its *wa* complement. The T518 is then bracketed by *ah* and *wa*, spelling the pronunciation *ahaw*. This EG reads literally "Split-sky Lord." Bruce Frumker has proposed that T518 is
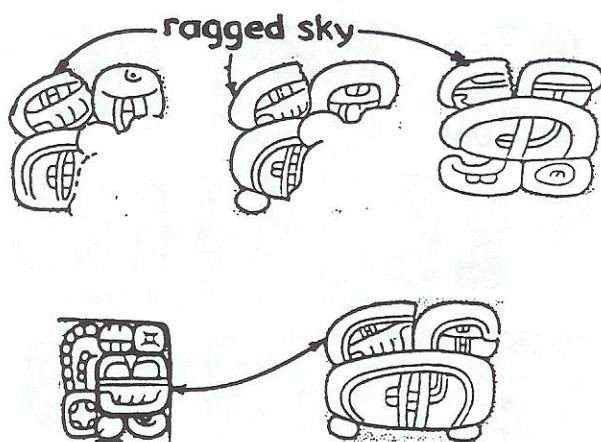

simply another form of *ah*. Peter also showed that this order of reading --that is, polity ahaw—is the one that was used in all variants. He demonstrated that whenever T168 was replaced by a head variant of *ahaw*, it followed the main sign. David Stuart and others have identified other signs, such as T87 *nal* that is written above the main sign, but read in final position.

In most EGs, the *ahaw* title and the main sign are preceded by another constant, a group of interchangeable glyphs identified by Thompson as "water." The head variant of this group had the affix attached to a head very similar to the glyph designated God C by Schellhas. We are not yet sure that the codex God C and the affix head variant are the same, but the EG character does not appear in the same contexts as the codex glyph. For example, the God C head records the sound *xam* in the codex version of "north" *xaman*, but it never appears in the north glyph in the Classic inscriptions. Furthermore, the head variant always has the dotted affix prefixed to the head, a configu-

ration that distinguishes it from the codex version. The two glyphs should not be merged into a single category and read in the same way.

The Classical sign is composed of a row of dots, rendered as drilled holes or raised circles and surmounted by one of a series of signs, including *yax*, *kan*, a shell, an earflare, a mirror, inverted ahaw, etc. In its personified version, this affix is placed in front of or atop the God C head. Thompson based his identification of this complex as water on the association of some of the super-

fixed items with watery environments (the shell with water) and on the fact that it is often given as a liquid offering. His identification of the set and its environments was brilliant, but he advanced his interpretation before we had learned of the blood-letting complex.
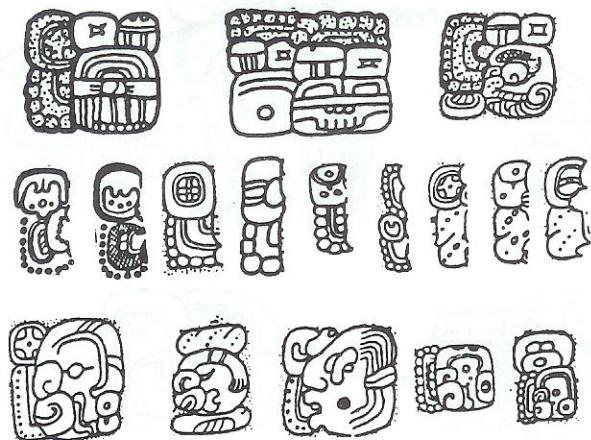
In 1979, I was asked to give a paper on human sacrifice at Dumbarton Oaks, and in assembling my data base, I noticed that the material surrounding the mouth of the woman on Yaxchilan Lintel
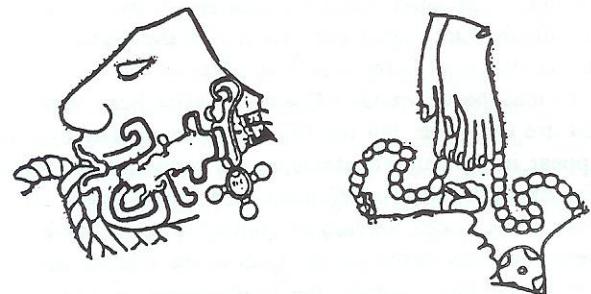
24 was surrounded by a scroll with a contour of circles. Since she is undergoing a traumatic tongue mutilation, it seemed to me that the substance smearing her face was logically blood, not face painting or tattooing. I looked for other examples of this dotted scroll and found it particularly associated with captives and in locations where blood is known to have been taken. I proposed that this dotted scroll marked blood flowing from sacrificial wounds.

David Stuart accepted my identification, but he was able to extend it far beyond the contexts in which I had found it. He noticed that the material scattered in the period-ending rites at Yaxchilan have the same scroll shape and dotted contour as the mouth marking of the woman, but in addition, it has the same set of symbols infixed or attached to it as does the "water-group." Furthermore, the rulers who scatter are covered with blood-letting iconography, including a personified blood-letter covering the genital area. Most importantly, he found on Seibal Stela 10 a period-ending rite recorded as T41:670, "God C blood-in-hand." The scene shows the ruler holding the Vision Serpent of the blood-letting rites (see Yaxchilan Lintels 13, 14, 15, and 25).

We took this evidence to identify the "water-

group" affix as blood, rather than water. These earlier arguments about the identification of this set of signs as "water" and then later as "blood" can be found in Thompson's 1950 *Maya Hieroglyphic Writing: an Introduction* and Robert Rands's 1955 study *Some Manifestations of Water*
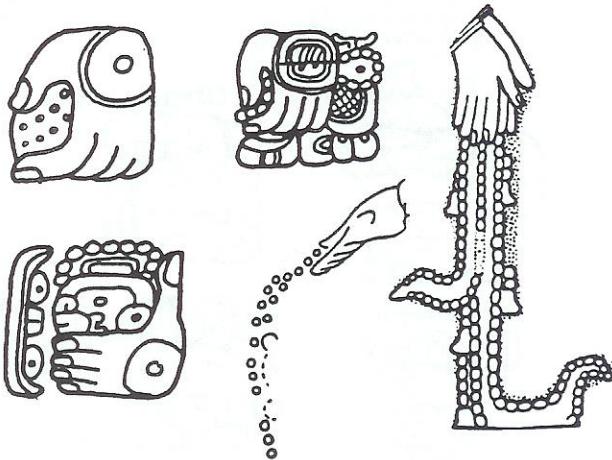
in Mesoamerican Art. See Schele and Miller's *The Blood of Kings* (1986) and David Stuart's "Blood Symbolism in Maya Iconography" in *Maya Iconography* (1988) for detailed discussions of the blood iconography.

It turns out these elegant arguments were all wrong and at least partially right. To my knowledge, several people, including David Stuart, John Carlson, and Bill Ringle, found pieces of the puzzle simultaneously and independently. The following is my understanding of the evidence as it now exists. Others may remember the sequence differently or wish to distribute the credit differently.

Apparently, Gates was the first researcher to note that God C functions as an honorific title that can refer to any god in the codices. Thompson quotes this observation (1950:80) and references Gates' suggested value of "lord." David Stuart made this same observation again in 1985 when we were working on *Ancient Maya Writing.* Any of the gods in the codices can be pictured with their normal portrait or as God C. The glyph should then refer to some quality that is held in common by "blood" (from the discussion in the previous section) and by gods of various identities.

The previous section on EGs describes the variety of signs and symbols that can occur in the structure category represented by the God C signs. The critical examples within this category are a set of "blood" group prefixes, including ones from Lakanha L1, Copan St. I, and the inscriptions of Chich'en Itza, which have the phonetic complement *lu* attached to them. These examples suggest that the word represented by God C should end with *-ul.*

In 1987, George Stuart ordered a facsimile of the original Landa manuscript from Madrid. John

God
C as →

lu
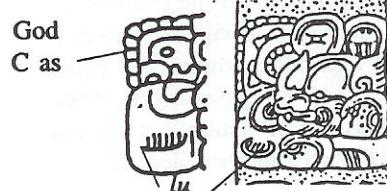
Carlson saw the facsimile when it arrived and at the 1987 workshop he showed me the original drawing of the month Kumk'u. He pointed out to me that the *k'u* part of Kumk'u was written with a clearly recognizable God C. This occurrence sug-

gests a value of *k'u* for God C and perhaps *k'ul* for the "blood" group prefix. I understand that David Stuart had made the same observations and arrived at the same conclusion independently. Bill Ringle had arrived at exactly the same conclusions independently. He sent a manuscript to George Stuart, which was published in 1988 as *Research Report 18, Of Mice and Men: The Value and Meaning of T1016, the God C Hieroglyph.*

K'u is glossed in the Cordemex as "dios," while *k'ul* is "adoración, reverencia, cosa divina." In
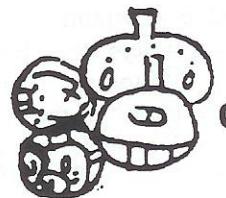

Chol (Aulie and Aulie 1978:55) *ch'uljlel* is "espíritu" and "el pulso (the pulse)." *Ch'ujuña'in* is "adorar" and *ch'ujul* is "permanente" and "santo." Other derivations are used for god, priest, and the sun. God C would then represent the syllable *k'u* when it functions as a phonetic sign as both *k'u* and *k'ul* when it functions as a logograph. As the latter, it reads "god" and "sacred or holy."

I presented many of these arguments at the 1988 workshop, but I have found several additional contexts which support the reading *k'u* for God C in purely phonetic contexts. The first is found on Stela 24 at Naranjo. In the scene, Lady 6-Sky Ahaw stands on the back of a captive named K'inichil Kab. The verb that describes this action includes the T757 auxiliary verb, *ti,* and a verbal noun consisting of *xa* and God C. The combination should give *xak'* as the action she is doing. *Xak'* is glossed in the Cordemex as "pasar abriendo los pies sobre algo (to pass opening [or placing] the feet over something)." This is an ex-

act description of her position over the back of the captive. On Copan Stela 9, the head variant of this sign functions as a phonetic complement for the *hok'* accession glyph.
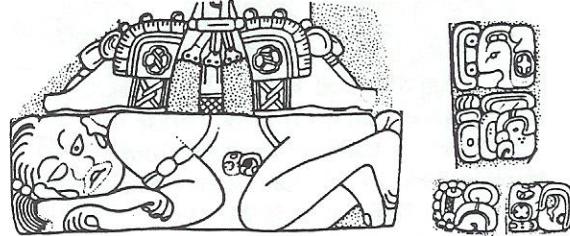
EGs are therefore titles for nobles naming them as the "holy lord" of a particular polity. The read "holy polity lord." Membership in one of these polities—or at least the used of the EG title—appears to have passed from father to child. Berlin, Marcus, and others have noticed that a woman frequently mentioned in Naranjo texts carries the Tikal EG. The parents of this woman are also named in the Naranjo texts, but they are not from Tikal. Steve Houston and David Stuart have identified the name phrase of the father as that of Flint-Sky-God K of Dos Pilas, one of the Petexbatun sites with the Tikal EG. Shortly after this woman arrived at Naranjo, a child named, Smoking-Squirrel, was born. He acceded to the ahawship of Naranjo at age five, and we have always assumed he was the child of the Dos Pilas woman. In 1992, Matt Looper confirmed our guess by finding a *yal*, "child of woman," expres-

sion between their names on Stela 5 at B2. Thus, we have a foreign woman as mother of the ruler of Naranjo. The woman carries the Dos Pilas EG of her father, while her son carries the Naranjo EG, presumably inherited from his father, the husband of the Dos Pilas woman.
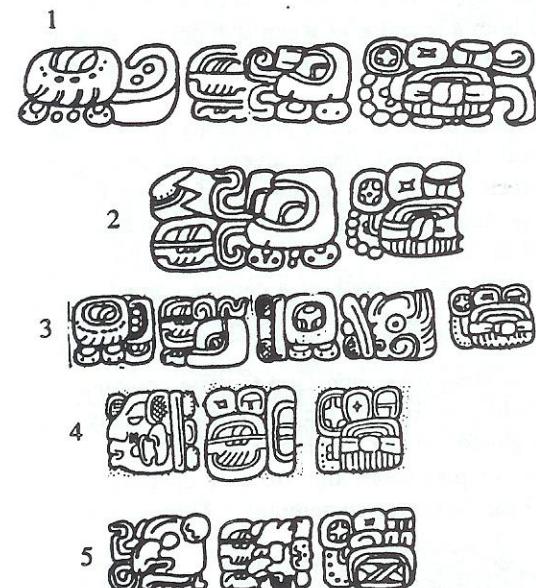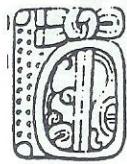
As in the Early Classic EGs from Yaxchilan discussed above, the *ch'ul* sign is not required in EGs. Rarely, as in the Yaxchilan examples, EGs can appear only with the **ahaw** title, and in women's names, the "blood" sign can be replaced by T1000a, the female prefix read as *na*.

At least two sites, Palenque and Yaxchilan have two distinct main signs which can be recorded as a pair. We have no hints as to the source and meaning of the Yaxchilan pair, but at Palenque, one of the EGs, the bird, seems to be related to the name of the goddess who is the mother of the gods (the Palenque Triad). This bird emblem seems to be a proclamation of the divine origin of the Palenque lineage or the divine function of the site. In a few other examples, again at Yaxchilan and Palenque, the main sign designating the local site or lineage is replaced by the T747a
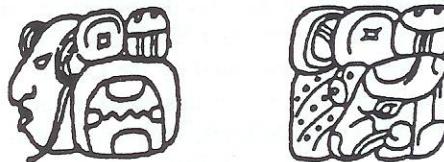
"vulture" *ahaw*. These rare variants seem to be naming the lords who carry them "Lord of Lords."

The Dedication Events

The latest category of events to be deciphered are a set of verbs and nouns particularly associated with rituals of dedication, the proper names of particular objects, and the generic categories of objects. These glyphs are particularly important to the inscriptions of Copan and their decipherment was pioneered by David Stuart during the late 1980s.

The T79 Verb

This verb appears in several different forms with a variety of spellings and inflectional endings. No satisfactory phonetic value has been proposed for

(1-2) Flint-Sky-God K from Dos Pilas Hieroglyphic Stairs; (3) name phrase of the father of Lady 6-Sky-Ahau from Naranjo Stela 24: (4) Lady 6-Sky-Ahau from Naranjo Stela 24; (5) Smoking-Squirrel of Naranjo

it, but Floyd Lounsbury was the first person to pay attention to it. He first associated it with anniversary dates on the Tableritos at Palenque. For a long time, I was misled by this association, think-
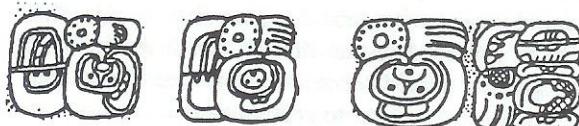

Examples from Palenque

ing that the verb pointed toward an anniversary date. However, now it is clear that the action refers to some dedication or action of placement, and that such rituals were often timed by anniversary celebrations. **1994**: Stuart has read this verb as *pat.* "to form or make."

At least one form resembles the "house" glyph,

Pal Ti sarc   Tableritos   Pal Tab   Cop, Alt S

Copan Atlar U
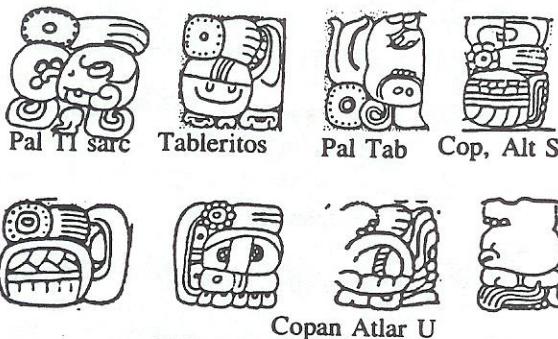
but this form is used to record the dedications of altars and stelae as well as houses. This association leads me to suspect that the house glyph, especially the variant that appears to be the thatched roof, is simply phonetic *to* or *ta*, rather than *otot*.
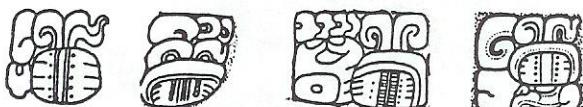
This dedication verb consists of the tail and rattles of a rattlesnake prefixed to a smoke or fire sign. **1991**: David Stuart has found phonetic substitutions identifying the verb as *och* "to enter." Apparently smoke was brought into the house to dedicate it.

The *tz'ap* verb (see next page) is especially associated with the erection of monuments. Nikolai

Grube has suggested a reading of *tz'ap*, "hincar algo en el suelo (to thrust something into the ground)." Peter Mathews had much earlier proposed *tzap* as the reading of a bloodletting verb on

Tz'ap "to stick something in the ground"
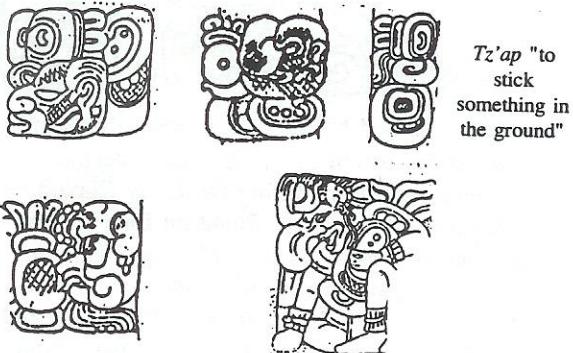
Bonampak' Stela 2 based on its Tzotzil gloss. Laughlin (1975:100) enters *tz'ap* as "pierce/with needle, nail, or feather/, place in post hole/replacement post." Peter did not associate the bloodletting verb with the dedication glyphs, but the "posthole" association is clearly related.

proper name of the house
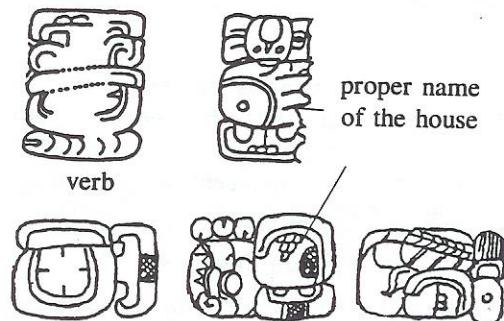
verb

This verb shows the *lak* plate with a *k'in* sign infixed into the side. Since I can find no appropriate meanings for *lak* in either the Yukatekan or Cholan languages, I suspect that the verb refers to the lip to lip caches that were regularly used in dedication rituals from the Late Preclassic period onward.
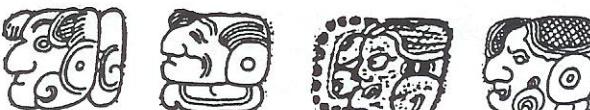

The God N verb occurs with some frequency in the PSS on pottery as well as on monuments and buildings. In his original exposition on the PSS, Mike Coe pointed out the substitution of a glyph that vaguely resembles a pyramid base or perhaps
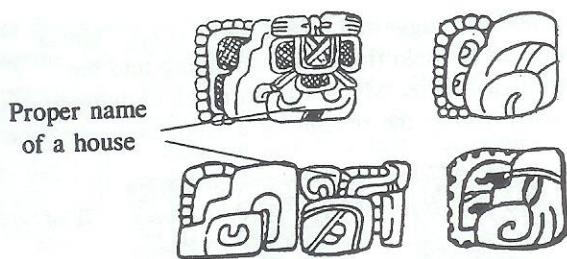
Proper name of a house

a shell for the God N verb. This same glyph occurs as the dedication event on Classic period monuments, especially during the Early Classic period. Several examples are found on Late Classic monuments at Copan. Barbara MacLeod has proposed a reading of *hoy* or *huy*, both of which are mean "to bless" or "make proper." **1993**: Last fall Justin Kerr show me a new pot with a two glyph PSS. In the place of the God N glyph was po-honetic *ho-yi*. It seems Barbara was right.
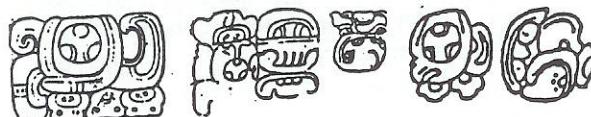
This verb also functions as the verb of the 819-day Count expressions. In both contexts, it must have the meaning of "to place" or "to set up"--"to set up" stela or other monuments and "to set up" a sky quadrant for God K.

Proper Names

At Copan and elsewhere, the objects dedicated are recorded with their proper names. David Stu-

k'inich
"sun-eyed"
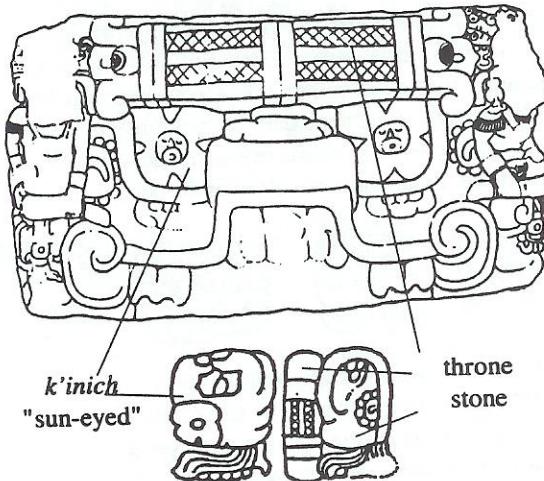
throne stone

art was the first person to recognize such a proper name on Altar U at Copan. In the summer of 1986, he was checking my drawing of a glyph on its rear surface when he recognized that the glyph *k'inich*, "sun-eye" corresponds to the image carved on the front surface. The altar is quite literally a "sun-eyed throne-stone," which is exactly the glyphic named recorded on its rear. From that example, he went on to recognize the name of Quirigua Zoomorph B as "jaguar throne-stone" and to associate the names of many stela at Quirigua and Copan with either the k'atun ending they celebrated as in "6 Ahaw stone" or with the beings in the double headed serpent bars and headdresses of the stelae. We have since confirmed the pattern of proper names at almost all Maya sites.

Palenque House AD   Copan Altar S

Copan Altar G1


Copan Stela 9

Copan Stela C

Copan Stela D
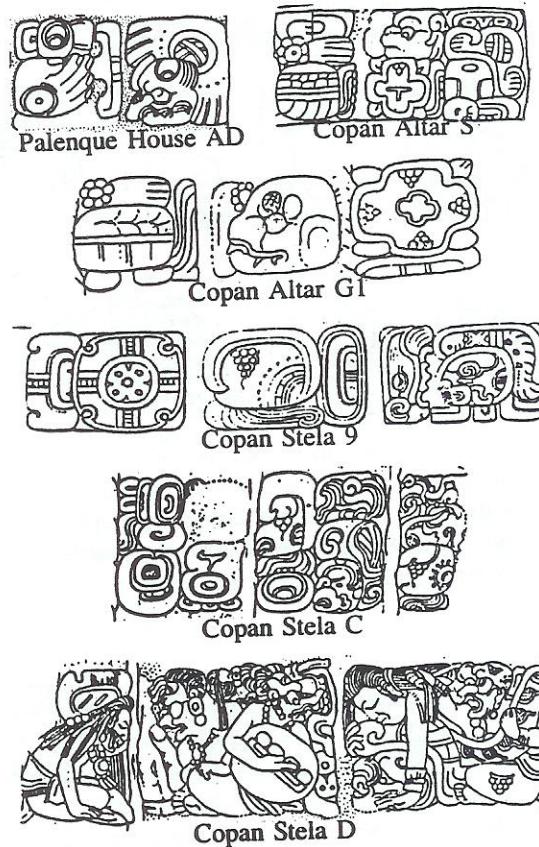
Typically the proper name appears in a formulaic expression consisting of one of the dedication verbs, the proper name, the Glyph B elbow, and the category of things to which the object belongs as in the examples below.

The Glyph B elbow

David Stuart recognized the pattern I discussed above during our work in the 1986 season. When I presented this pattern as it appears in the Group of the Cross at Palenque, calling the God C-in elbow" glyph a terminator for proper names. In the Advanced Seminar that followed that workshop, Judy Maxwell started using a reading of *u k'aba* "is its name" for the glyph. Shortly, thereafter, Nikolai Grube and David Stuart came up with the
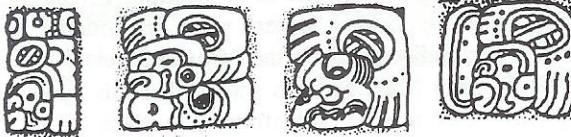

same reading independently, but David added the God C to the reading as *u k'u k'aba*, "is its holy name."

These readings can be confirmed by several substitutions. A large number of these Glyph B elbows have T228 *a* suffixed to them. At Copan, several have T501 *ba* infixed into the elbow. However, the two most telling examples have direct substitutions that confirm the value.

On the Casa Colorada at Chich'en Itza the normal elbow is replaced by its phonetic spelling *u k'a:ba*.

On an Early Classic plate used in just this kind
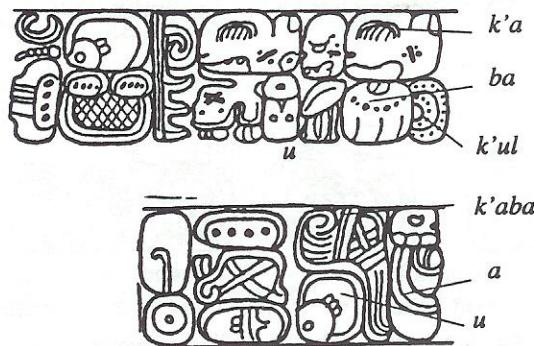
of dedication ritual, the text begins with the PSS introductory glyph followed by the shell dedication verb. The name of the plate, *u sak lak*, is followed by *u* and a glyph with a hand folded over a chuwen glyph. the word for hand is *k'ab*. Furthermore, there is an *u k'aba* glyph with the same chuwen glyph infixed in the elbow on Copan Altar S. Most interestingly, David Stuart (*Copan Note 2*)

has shown that the huge stone censors at Copan were called *sak lak tun*, stone versions of the same class of object. Since this plate was a cache vessel, it may be that the stone censors of Copan
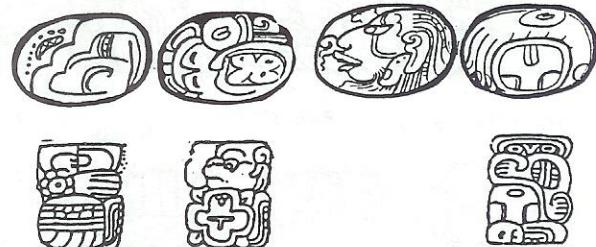
also received offerings.

The kinds of objects that can be named

Te-tun, "tree-stone" or stela. Some scholars have questioned the value of the "tree" sign as *te*, but the graphic image exactly matches the trees on the sarcophagus sides at Palenque. There iconic versions have *te* signs infixed in them as phonetic keys to their pronunciation as *te*. On Copan Stela A, *lakam tun*, "large (huge) stone" is used to refer to the stela.

U lakam tun   *te-tun*

te-tun   *acante* from the   Sacrc. side
                   Dresden codex
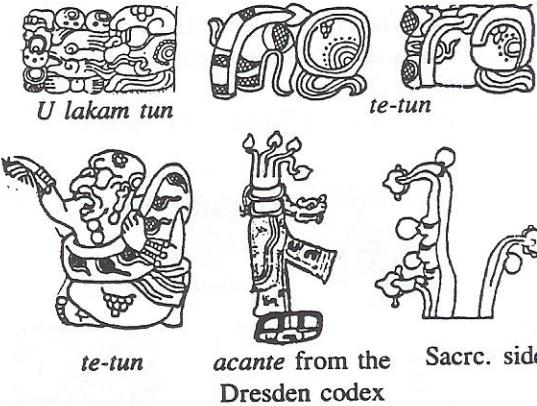
1993: Last year in his article on Copan, David Stuart expressed doubt about the value of the tree sign as *te*. His note cited examples in which the sign has a *ma* suffix. I could not find these examples until Steve Houston's new book on Dos Pilas included examples of artist names from Piedras Negras. Then I saw a new pot from Justin's photogram that has this sign with T74 ma. David I think believes this sign reads *lakam*. Since this

sign goes with standard bearing warrior on the new pot, and since *lakam* is "standard," I suspect that David is correct in his reading.

Holy Copan *Na*   *y-otot*   *y-otot*

various spellings of *y-otot*
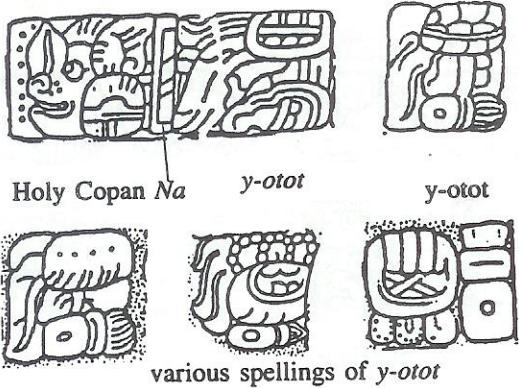
The Maya used two words for house. *Otot* meaning a "house that is possessed by someone" and *na,* a building that is not owned. The concept of ownership is inherent to the word *otot.*

a   b   c
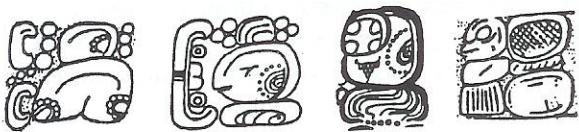
(a) stands for flat sided objects like a rectangular altar at Copan and the sarcophagus at Palenque; (b) *k'an-tun,* the Tablet of the 96 Glyphs at Palenque and a round altar at Tonina; (c) *u pakab,* "his lintel."

Location and Toponyms

u chumib, "his seat"

buch (?) "seat"
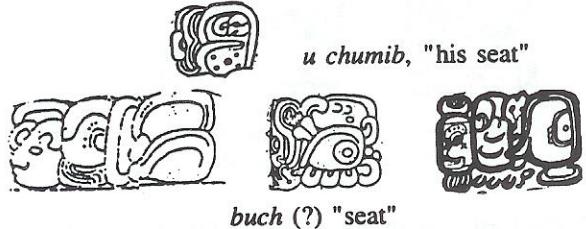
David Stuart and Steve Houston have made a central contribution to Maya studies by identifying place names or toponym in the inscription. David has especially worked with the inscriptions of Copan and found that there are several important toponyms in the Copan corpus.

Some of these locations are identified by comparison to other inscriptions, such as the Dresden Co-

dex or pottery scenes. One such location, a "black hole" and a glyph for a watery place are found both in the codices and on the "Cosmic plate. 1992: Barbara MacLeod has shown that this opening was called a *way,* "transformation place."
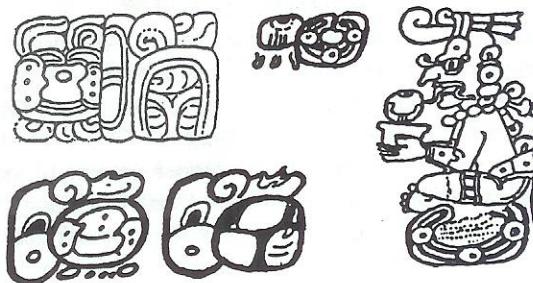
Other toponyms can refer to features of the landscape, such "mountains" (see Stuart's *Ten Phonetic Syllables* paper).

Yaxha (after David Stuart)   "it happened at *Sacnab*" (the other lake at Yaxha)
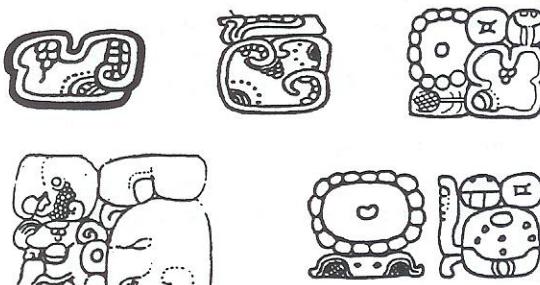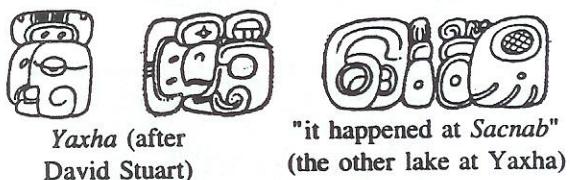
Other toponyms included bodies of water. Some of the toponyms can refer to kingdoms as geographical location or they may refer to locations within a kingdom. The latter type will often follow *utih* "it had happened" (see the Petexbatun and Saknab examples above).

Other examples, especially in the Early Classic period, can appear with the "chuwen" skull glyph.

Tikal Stela 39

uhti

Tikal Stela 31

Tikal Stela 31   Tortuguero M6

Copan Emblem Glyph as a location

Copan   Palenque   Tikal

Tikal   Cosmic Pot
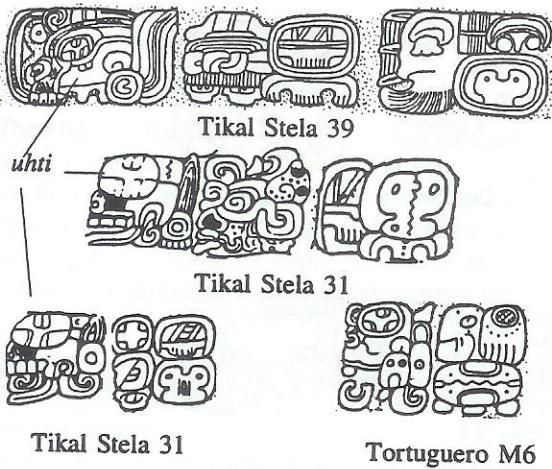
1992: David Staurt and Stephen Houston circulated a new version of their toponym paper last year. In it, they identified the "chuwen" skull as the glyph for a bead, *uh* or "necklace." They read this combination as *uhti,* "it happened at."

One type of toponym appears in a formula in which the toponym is followed by the "sky" glyph and Thompson's "impinged bone." This "sky-im-

819-day Count passages from Palenque

Direction from the altar to Copan Stela 13

pinged-bone" expression also appears with direction glyphs, especially in the 819-day Count.
1992: Barbara MacLeod has suggested the reading *kun* for "seat."

The "sky-impinged-bone" expression also appears regularly with toponyms as well as the directions. The impinged bone usually has phonetic *na* attached to it and it can also appear in a bird head
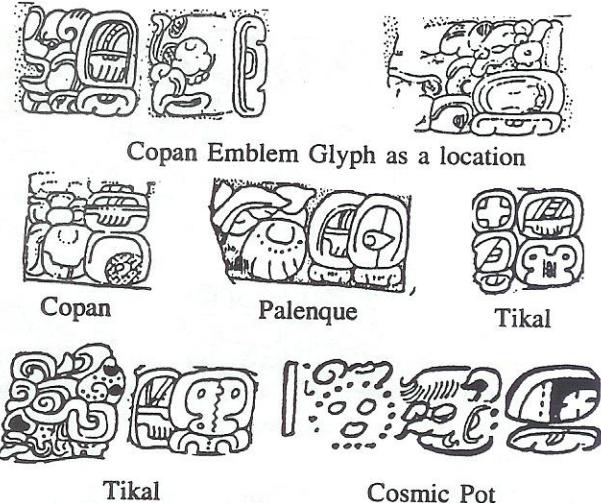
form which is distinguished by a tri-foil shape in its eye.

On Caracol Stela 3, this tri-foil glyph is one of

head variant of "impinged bone"

the variants listed by Thompson under T628.

T606 (also with a *na* suffixed to it) also appears
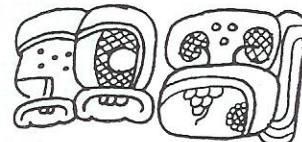
in the locative phrases. T606 and the "impinged bone" could possibly be different ways of spelling the same locative, but T606 rarely appears with the "sky" glyph. Stuart and Houston have pointed out a possible substitution to T606 for T565, suggesting it could be the locative *tan*. The Cordemex (769) glosses *tan* as "in front" and "in the middle

Copan Alt. G1

Copan Alt S

Dos Pilas St 26

Seibal St 7

Tortuguero M6

Dos Pilas St 8
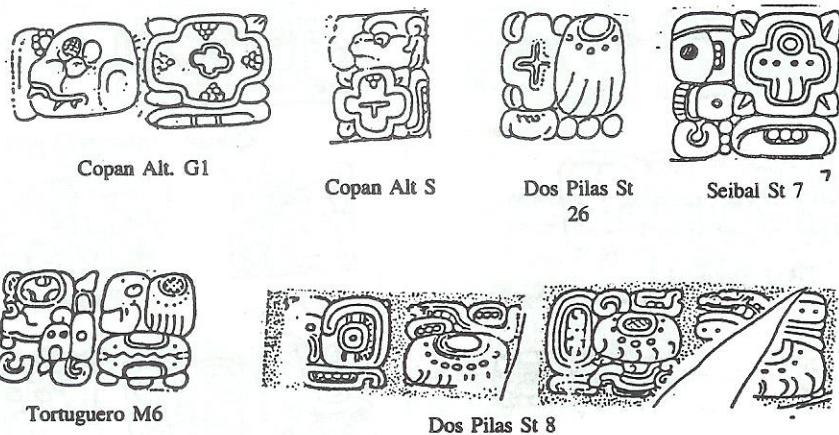
of something." For Chorti, Wisdom lists *tam* as "center, middle, interior, depth," but this may be cognate to the Yukatek term *tam* "depth" and "deep."

1991: During the summer, Nikolai Grube and I discovered that the crossed hatched waterlily glyph and its iconic presentation was used by the Maya as their word for "courtyard." Thus, the imagery of the waterlily band that I had formerly taken to identify an Underworld space can now be interpreted as a courtyard. Thus, as temples were mountains and stelae trees, so the surface of the courtyard was considered to be the surface of the sea.

Syntax and Discourse

Simple Clauses

The texts on the rims of pottery, those that tag objects for ownership, and others that identify figures in scenes, regularly do not have a temporal expression in the clause. Tagging expressions will often begin, for example, with a possessed noun in a stative expression saying that the object be-

u tup "his earflares"
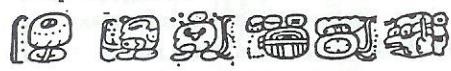
u bak "his bone"

longs to someone. Pottery texts are more compli-

cated in that they include a verbal phrase, but the essential purpose was the same--to name the patron and sometimes the artist of the pot. These name-taggings (first discovered by Peter Mathews) and dedicatory type texts are the simplest kind used by the Maya.

Texts that regularly recorded history begin with a temporal statement that established the time-frame--often the exact day--of a particular event. Such clauses will have a verbal phrase and an actor following the date. These components of temporal, verb, and subject can be elaborated in a different ways. What and how these texts are elaborated reinforce different parts of the message and constitute a large part of the art and literary tradition of Maya writing. The Leiden Plaque, for example, begins with temporal information stated as a date in the Long Count, a system recording the

Leiden Plaque
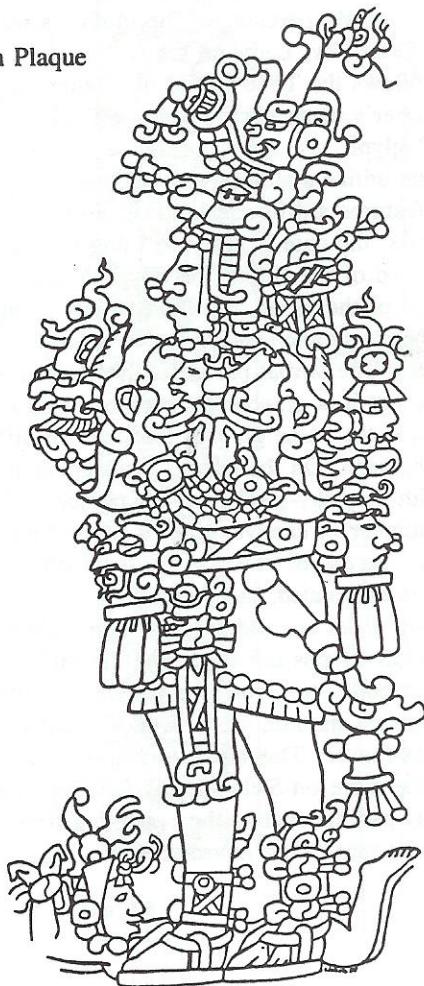
ISIG

8 baktuns

14 katuns

3 tun

1 uinal

12 days

1 Eb

G5   **chum** "seating"

Yaxkin   was seated

place??   **Way-ko-???**

Chan   **Chac-wa**

time elapsed since the zero date in the Maya Calendar, 13.0.0.0.0 4 Ahau 8 Cumku (or August 11, 3114 B.C.). The Calendar Round date and the Lord of the Night, G5, complete the calendric information. Stela 16, a much later text from Tikal, also opens with temporal information, but recorded as a Calendar Round date locked into position by the noting that on this day the 14th katun ended. In Mayan languages, cardinal numbers (14th) are distinguished from ordinal numbers (14) by the use of a possessive pronoun. The sign filling the left edge of the glyph block is one of the Set A pronouns that are used to possess nouns.

On the Leiden Plaque, the verb is the T644 "seating" (*chum*) glyph, and since this verb is usually followed by a title phrase recording the office, I have assumed that the vulture glyph in the next block records the office. On Stela 16, the verbal expression contains two phrases. The first records that the "14th katun was completed," and the second that "the tun ended." The Leiden Plaque name phrase contains three glyphs, while Stela 16 records the protagonist with his personal name, a sky-God K title, the Emblem Glyph, a title based on a waterlily and uinal glyph, and a notation that this fellow was a "four-katun lord" (he was between 40 and 60 years of age at the time of this event.)

## Elaboration of a Simple Clause and Redundancy of information

The text from the sides and front of Yaxchilan Stela 11 illustrate both the redundancy characteristic of Maya public inscriptions and the variation in phrase structure used to enrich the style of presentation and relieve the boredom of repetition. The text from the sides records the accession of Bird-Jaguar of Yaxchilan. It begins with a Long Count date (missing from the illustration), elaborated to include a the Lord of the Night, Glyph Y passage, the age of the moon, a specialized supplementary series peculiar to Yaxchilan inscriptions, and the station in the 819 day count (included in the illustration). The verb is the T684 *hok'ah* verb for accession, followed by a prepositional phrase recording the office as *ta ahau le*. The text ends with a relatively simple version of Bird-Jaguar's name phrase, including a "skygod" title sequence

(composed of *te-cuy* title, a deer horn over an inverted vase, the sky glyph, a supernatural head (skygod), and *mixnal uinic* compound), followed by Bird-Jaguar's personal name, a title noting him as "he of 20 captives," the Emblem Glyph, and the *bacab* title.

The same information is repeated in the lower register on the front of Stela 11. The date is again recorded in a Long Count notation with the Lord of the Night, Glyph Y, and the age of the moon; the 819 day count station is not repeated on the front. The verb is the same as on the sides, but it is elaborated graphically to occupy three glyph blocks rather than one. Bird-Jaguar's name phrase, in contrast to the sides, features different information. It begins with Bird-Jaguar's personal name glyph, followed by "guardian of Ah Cauac," "he of twenty-one captives(?)," "3-katun *batab*," and both Emblem Glyphs. The remainder of the text is an extension of the standard name phrase recording Bird-Jaguar's parentage. The mother's name, "Lady Ik-Skull Sky, Lady *Ah Ch'ul Na*, and Lady *Batab*," follows the T670 "child of mother" glyph and the father's name phrase follows T712 "child of parent" glyph.

Both texts utilize a simple verb-subject clause, but each features a different kind of information. In both texts, the date is given in Long Count with the Lord of the Night, the Glyph Y passage, and the age of the moon, but the 819 day count and the special supplementary series is found only on the sides. The verbal phrase is the same in both texts, but it is graphically elaborated on the front. It is in the name phrases that the full difference can be seen. On the edges, Bird-Jaguar is recorded with the "sky-god" title, his personal name, a number of captives title, a single Emblem Glyph, and the *bacab* title. On the front, the "sky-god" title is eliminated, and "captor" and "numbered katun" titles are added to the name phrase. Both Emblem Glyphs are used, and the full-name phrase is extended to record the names with titles of Bird-Jaguar's mother, Lady Ik-Skull, and father, Shield-Jaguar. This last information is repeated twice more on Stela 11; his full figure portraits of his parents occupy the upper registers on the front and rear of the monument.

(On) 6 Ahau		DN	6 days, 3 *uinalihi*
13 Muan			1 tun
was completed		819 date	[after] 1 Ix
the 14th katun			7 Uo (9.15.19.14.14)
the tun ended	**S u b j e t**	verb 819	was placed in
title		direction	North
	color		White / "deity"?? / God K
Ruler A		subject	*K'awil Hun Ch'ok*
Sky-God K		IS date	??? / 8 Zec
Lord of Tikal		verb — office	*hok' ti ahawle(l)* He was inaugurated in reign
Title	**S u b j e c t**	SKY GOD	*te-kuy* / "deity"
4 katun			sky god
batab			*mixnal winik*
		BJ	Bird-Jaguar / He of 20 Captives
		EG	Holy Yaxchilan Lord, *Bakab*

Tikal Stela 16
(drawing by W.R. Coe)
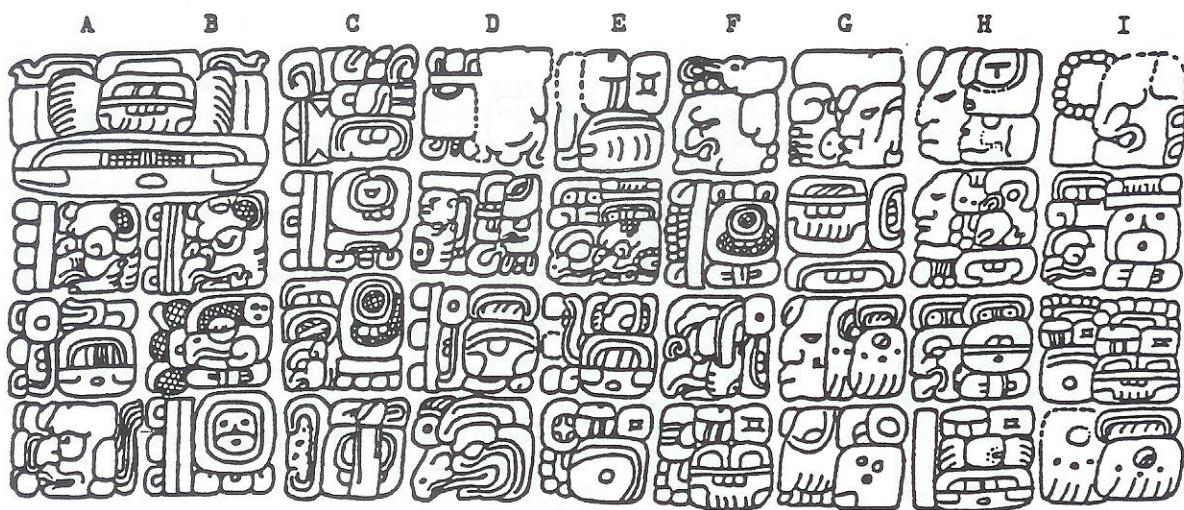
A	B	C	D	E	F	G	H	I
ISIG with patron of Tzec		G9 ruled	Z	ahawle(l) reign	Bird-Jaguar	child of woman	Lady Ik-Skull	Shield-Jaguar
9 baktuns	16 katuns	12 days after it arrived	5E X	captor of <u>Ah</u> Cauac	*Ah Hun K'al Bak*	sky	Na Ah *Ch'ul Na*	guardian of Ahawal
1 <u>te</u> tun	0 uinals	was the name of the 29	8 <u>te</u> Tzec	3 katun	<u>batab</u>	Lady <u>Bacab</u>	child of	*Ch'ul* Yaxchilan *Ahaw*
0 kins	11 Ahau	*hok'ah* came out	*ti* in	*Ch'ul* Yaxchilan *Ahaw*		parent	5 katun	<u>Bacab</u>
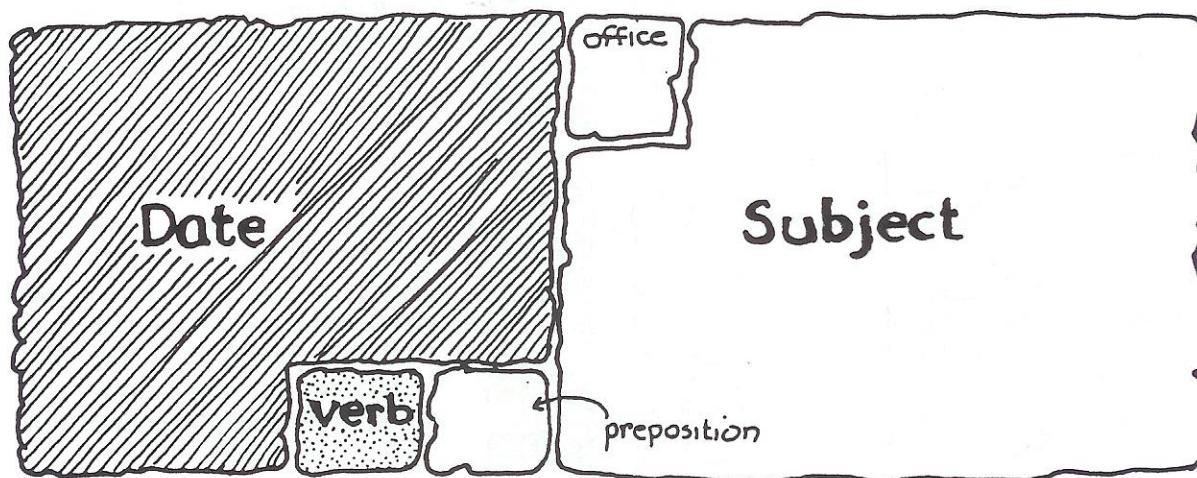
Chart of Stela 11 syntax

The same accession information is again recorded on Lintel 1, but here the performance ritual is emphasized. The date is recorded as a CR with the Lord of the Night and a verbal couplet composed of the auxiliary verb expression, "he goes grasping God K" and he dances with an object." The name phrase is elaborated in yet another pattern that includes the "sky-god" *title phrase, mixnal* (without the *winik* glyph), Bird-Jaguar's personal name, "he of twenty captives," two guardian titles, two numbered k'atun titles, both emblem glyphs, and "west *batab*."

| 11 Ahau | G5 | F | 8 Zec |

| 757 | ahau-in-hand | he danced | with ???? |

Yaxchilan Lintel 1

te-kuy "diety"?

"sky-god" title

mixnal

Bird-Jaguar

He of 20 Captives

captor of

Ah Cauac

| captor of | Jeweled-Skull | 3 katun |
| 3 katun title | | T518 ahau |

| Lord of Yax. | Lord of Yax. |
| West batab |

Yaxchilan Lintel 1

Bonampak Stela 2

9.17.5.8.9
6 Muluc
17 Yaxkin
G7   F

: hok'ah

ti ahawle(l)

Chaan-Muan

(it was) 13.7.9

and then it happened

12 Etz'nab 1 Ceh
9.17.18.15.18

tz'apah it was planted

the stone thing

yem was its name

mother of

Chaan-

Muan

Captor of

Ah HO-BAC

child of   Ahau

ahaw

White-Lizard

Ahau   Bonampak ahaw

Lord of Bonampak   Bacab

Lady

name   Lady Patah

Lady   sahal

1991: Notice the *Nik* spelling following the child of father glyph. Nikolai Grube has proposed this specifies how to read the child of father glyph.

Bonampak Stela 1

One of the most interesting of these very elaborate name phrases is found on Bonampak'' Stela 2. The text consists of two clauses, the first recording "(on 9.17.5.8.9) 6 Muluk 17 Yaxk'in, G7 ruled, he came out in *ahawle,* Chaan-Muwan." The second clause begins with a DN of 13.7.9 counting until the day 12 Etz'nab 1 Keh (9.17.18.15.18). The second verb has a dedication recording that some object (perhaps the stela itself) was planted, that "scattering" was its name, and that the person who dedicated it was Lady ???

Patah, Lady *Sahal.* F1 is a glyph identified by Peter Mathews as a relationship between a mother and child that seems best paraphrased as "mother of." It is followed by the name phrase of her child, "Ahpo-Chaan-Muwan, guardian of "He of Five Captives." The second part of Chaan-Muwan's appellative phrase names him as "child of White-Lizard." The relationships stated in this text are confirmed on Stela 1, where Muwan-Chaan is named as "child of the woman, Lady Patah" and "child of the man White-Lizard Lord of Bonam-

pak'." The second clause of Stela 2 names the subject of the verb as "Lady Patah, mother of Chaan-Muwan, who was child of White-Lizard."

The imperatives that may have governed the choice of title sequences in different texts are not yet understood. Particular rites may have demanded particular title sequences, but it seems evident that to some degree, the amount of space and importance of the text contributed to the amount of elaboration present. In addition, each site seems to have followed local traditions as well; many title sequences are limited to one site or region, while others appear at all sites.

The *Ti* Constructions

In 1974, Jeff Miller and I were going over copies of Ian Graham's field drawings when we noticed a possible identification for T757, previously shown by Proskouriakoff to be a rodent, rather than a combination of dog and rabbit Thompson called a jog. In follow-up studies, I noticed a regular occurrence of this rodent head in the position of a verb and followed by a *ti* sign and additional glyphs. Although I had no explanation of this pattern, I anticipated that it was of importance, and when David Stuart and I were having an "intense" discussion of these structures in the inscriptions of Yaxchilan, it occurred to me to ask a linguist if similar patterns were known in modern Mayan languages. Nicholas Hopkins and Kathryn Josserand, who were conducting field studies of Chol, happened to be in the next room, and when asked if they knew of anything in spoken Maya that might explain these glyphic structures, they immediately associated them with exactly parallel constructions from spoken Chol.

In the inscriptions, these kinds of constructions have the following characteristics:

(1) One of two special verbs is followed by a phrase containing glyph(s) that function in other contexts as main verbs, as denoted by both clause initial position and occurrences with known inflectional affixing. The second part of these constructions can appear in two forms: (1) a glyph (or glyphs) that follows the first verb and carries normal verbal affixing or (2) a glyph (or glyphs) that follows the first verb and a *ti* sign, and is stripped of all verbal affixing.

(2) the verbs appearing in the first part of such constructions occur with many different actions, while the glyphs in the second apart of the scene co-vary with some component in the accompanying scenes. Therefore, the specification of action or state resides in the glyphs of the second part; the initial glyphs have some general function common to these structures.

(3) One verb has been found in the first part of these special structures: T757 which occurs both as a general verb followed by semantically specific complements and as an independent verb without complements.

The linguistic structures that parallel these glyphic structures behave in the same manner. There are a set of verbs in Chol that occur in complex structures of two types: (1) verbs followed by other verbs where both have inflectional affixes, and (2) verbs followed by *ti* and a verbal noun. In the latter case, only the first verb is inflected; the second appears in the form of a noun derived from a verb. The verbs appearing in these contexts are of two types: (1) verbs that occur only in these situations and never as independent verbs, and (2) those that occur as both independent verbs and as these prefixed verbs. Both types of verbs give information about the aspect of the action , as in "I began to run" or "I finished running." Applying evidence concerning the function of these linguistic structures to their corresponding structures in the inscriptions, we called them auxiliary verb constructions, based on the definition of an auxiliary verb as one "that helps to form the voices, moods, tenses, etc. of other verbs." In the case of the *ti* constructions both in spoken language and the inscriptions, the first verb is syntactically the main verb while the word following *ti* is a noun, but the particular action or state is semantically specified in the *ti* + verbal noun phrase, not the main verb.

1991 addition: In the years since we discovered these *ti* constructions, new information has changed their interpretation somewhat. Vicky Bricker's work with "split-ergative" inflection on verbs has shown that the verb is the present progressive of the auxiliary verb *bah*. In Tzeltal, this verb means "to go," an equivalent of the verb *mahlel* in modern Chol. *U bah* is "he goes" with the rough equivalency of "he is doing" in English.

Yaxchilan
Lintel 3

4
Ahau
  3
 te
Zotz'
  expired
  the
5th
tun
  ti ahawle(l)
in reign

T757
  ti ak'ot
dancing
  ti ??ip
with a bird
  muy chan yat
  (Shield-Jaguar II)

ak'otah
he danced
  ti ??ip
with a bird
staff
  Bird-
Jaguar
  He of 20
Captives
  Captor
of
  Ah
Cauac
  3 katun
ahau
  Lord of
Yaxchilan
  Bacab
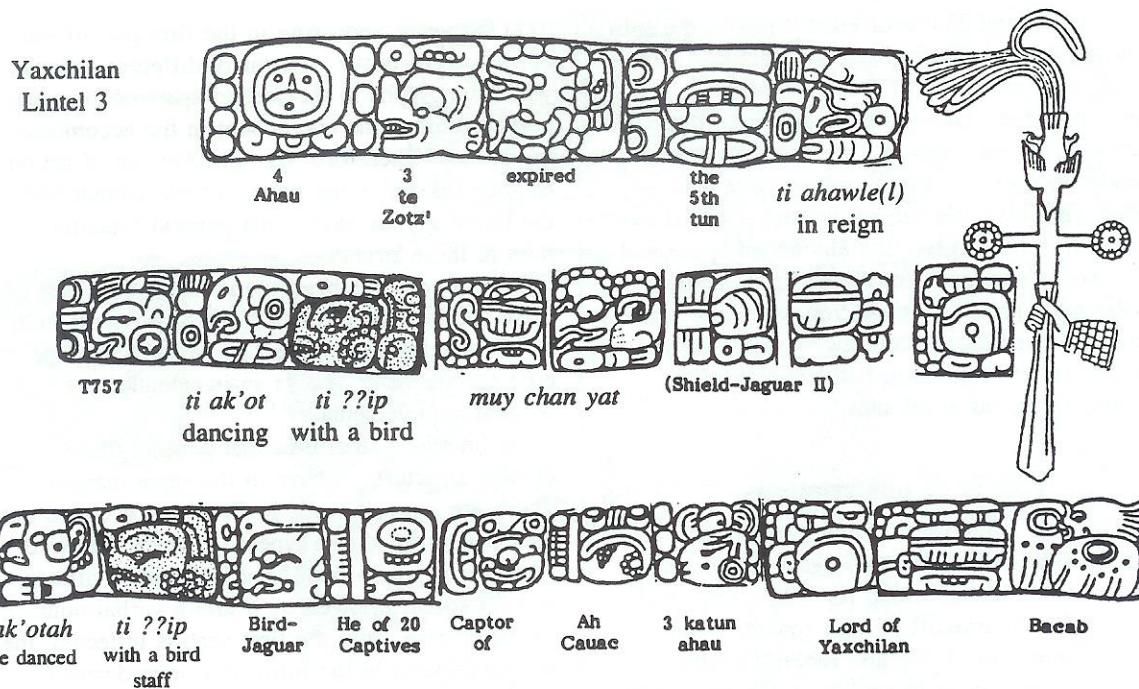
The most frequent occurrence of these "he is do-ing something" phrases occurs in texts that are em-bedded in the scene so that it is evident that the an-cient Maya considered that recording an action in stone imagery froze it into an eternal present.

Only this *u bah* verb functions as an auxiliary. The T516.103 verb we had thought to be an auxil-iary because of its context has been read by Niko-lai Grube as *ak'ot*, "to dance," and the *ti* construc-tions that follow are prepositional phrase naming the objects carried in the scene, just as Peter Mathews suggested long ago. Thus, *u bah ti ak'ot ti* "object" is "he goes dancing with an object."

Multiple Clauses and Linkage with DNs

Many Maya texts record more than one clause, often linking them temporally by DNs. Events im-portant to public legitimization of the rulers were featured in these kinds of texts so that the patterns of association tell us something about the strate-gies of social charter that worked in Maya society. These associations usually fall into one of the fol-lowing categories: (1) events within the life of one person, such as birth and accession, accession and period-ending rites, accession and building dedica-tions, etc.; (2) events in the lives of different per-sons, especially successive rulers; (3) events in the lives of living rulers and historical ancestors; (4) events in the lives of mortals and legendary or mythological personages.

When these events are linked into more complex syntactical structures, the scribe could vary the elaboration, style, syntax, and detail recorded in each section of the text. Clauses relating events widely separated in time or with different agents often retain all syntactical components, but when events within the life of one person are related or if missing information is recoverable from the con-text, redundant information could be eliminated. For example, in English we can say "He entered school in 1978. He graduated four years later" or "He graduated four years after he entered school in 1978" or "He entered school in 1978 and gradu-ated four years later." The information imparted in these sentences is equivalent, but the syntactical structure is different in each. Exactly this kind of syntactical variety is used in Maya texts.

The four clauses on Yaxchilan Lintels 29, 30, and 31 record a series of events in the life of Bird-Jaguar, culminating perhaps with the dedication of Structure 10, the building housing these lintels. The first clause begins on Lintel 29 with the Ini-tial Series Date recording 9.13.17.12.10 8 Ok 13
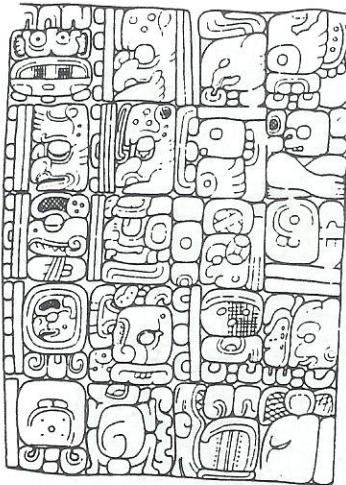
ISIG with the Patron of Yax, 9.13.17.12.10, 9 Oc, G7 ruled, *ho bixi* Z, 15 days after it arrived, the 5th moon closed, X was the "sprout" name of the 30; 6 ???-*hi*, was drilled (**hoch'ihi**), the fire of (**u k'ak'**),

Lintel 29

Lintel 30

Yax. The addended information about the date continues to Lintel 30, which opens with a DN and the parenthetical 819 day count passage. The haab position for this opening date is recorded at the top of the third column as 13 Yax. The first thirty-one glyphs from this text are used to record nothing more that information about the date. The event occurring on this date was the birth of Bird-Jaguar. The second clause begins with a DN linking the birth to Bird-Jaguar's accession, recorded at H5 by the T684 verb. The clause continues to Lintel 31, where the first three glyphs record the subject as Bird- Jaguar.

The third clause begins with another DN, linking the accession to another event recorded in a couplet expression. The subject of the first part of the couplet has the *Mah K'ina* title preceding the front head of the Celestial Monster and *na*. The subject of the second verbal phrase is Bird-Jaguar. These two verbal phrases have not been deciphered, but since the second half of the couplet includes a *tu otot* glyph, I suspect it may record the dedication of Structure 10. The final clause records the "expiration of the 17th k'atun" an event that does not require an agent. Paraphrases of these four clauses are as follows:

Clause 1

Clause 2
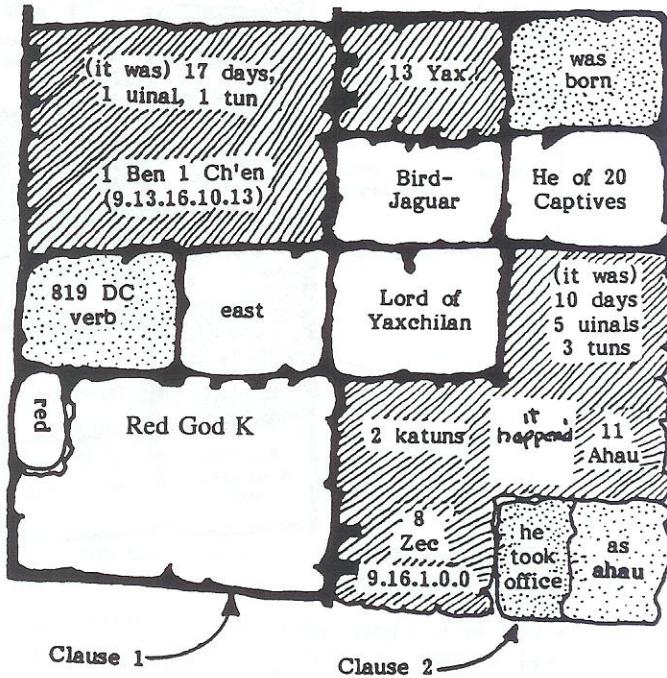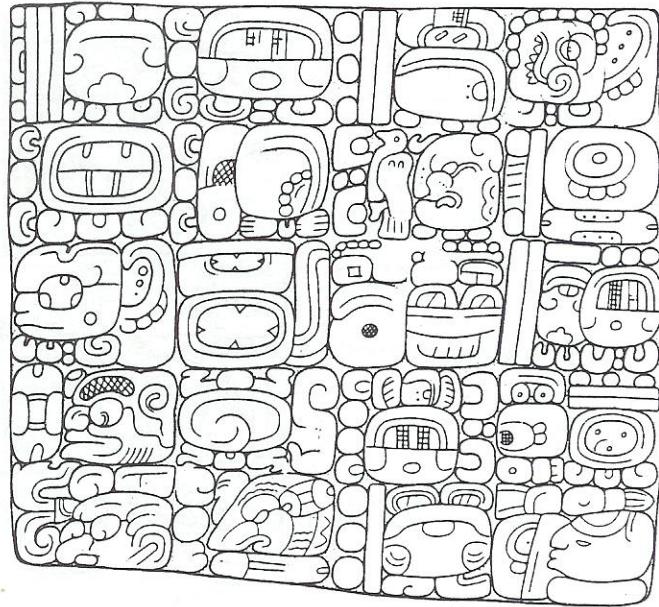
(On) 9.13.17.12.10   8 Ok
G7 ruled and age of the moon
   (it was) 17 days, 1 winal, 1 tun (since)
      1 Ben 1 Ch'en he did the 819 DC event
      East Red God K 1-Rodent-Bone

Lintel 31

Bird-Jaguar	He of 20 Captives	3 katun ahau	*u k'aba* ls its name	it is his house	Bird-Jaguar
Lord of Yaxchilan	(it was) 0 days 0 uinals		He of 20 Cptv	3 katun lord	Lord of Yaxchilan
12 tuns	and then it occurred	2 Ahau		(it was) 7.0.0	it will occur
8 Uo 9.16.13.0.0	it was dedicated		13 Ahau 18 Cumku (9.17.0.0.0)		
the *Mah K'ina Itzam Na*	Chum ?? wi	it will end			the 17th katun

Clause 3   Clause 4
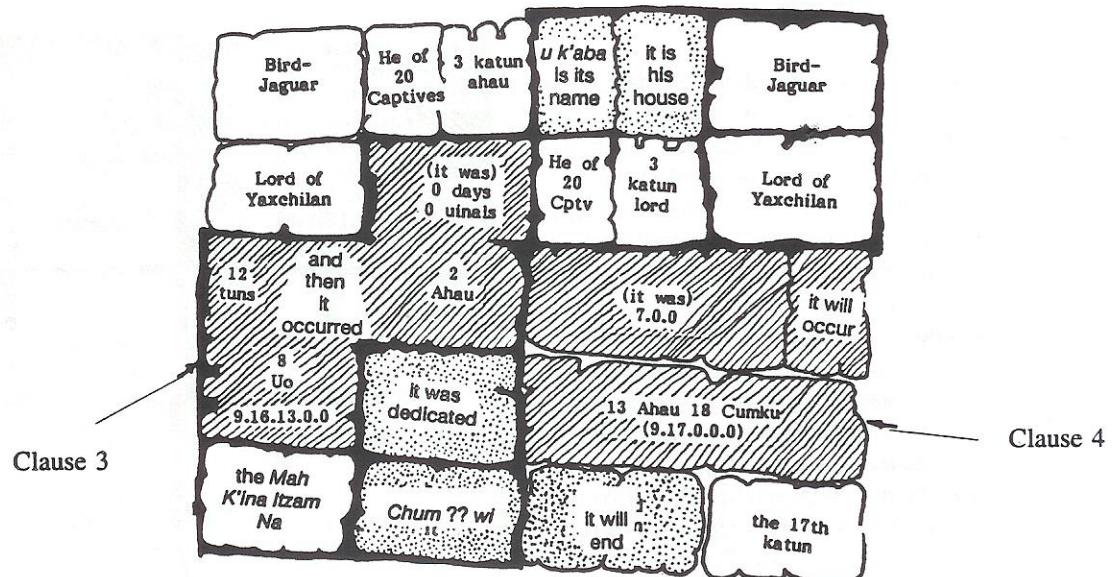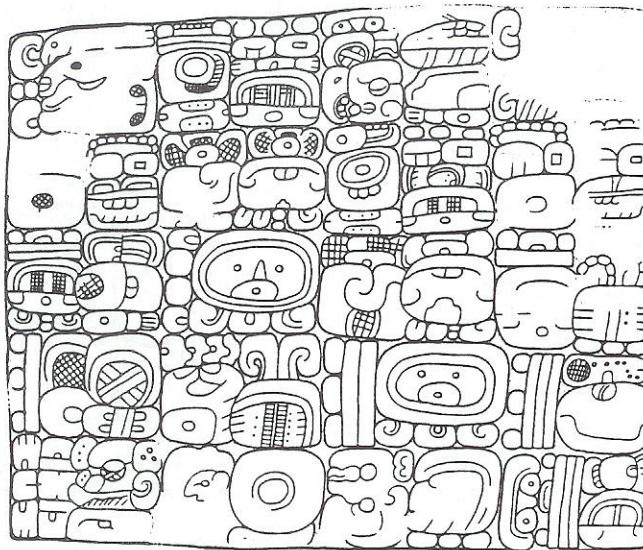
13 Yax he was born Bird-Jaguar,
He of 20 Captives, Lord of Yaxchilan

(it was) 10 days, 5 winals, 3 tuns, 2 k'atuns
and then it happened 11 Ahaw 8 Tz'ek
  He was inaugurated as *ahaw*
  Bird-Jaguar, He of 20 Captives,
    Three K'atun Lord, Lord of Yaxchilan

(it was) 0 days, 0 winals, and 13 tuns
and then it happened 2 Ahaw 8 Wo
  smoke entered it
  Mah K'ina Itzamna was its name
  it was the house of
    Bird-Jaguar, Three K'atun Lord
    Lord of Yaxchilan
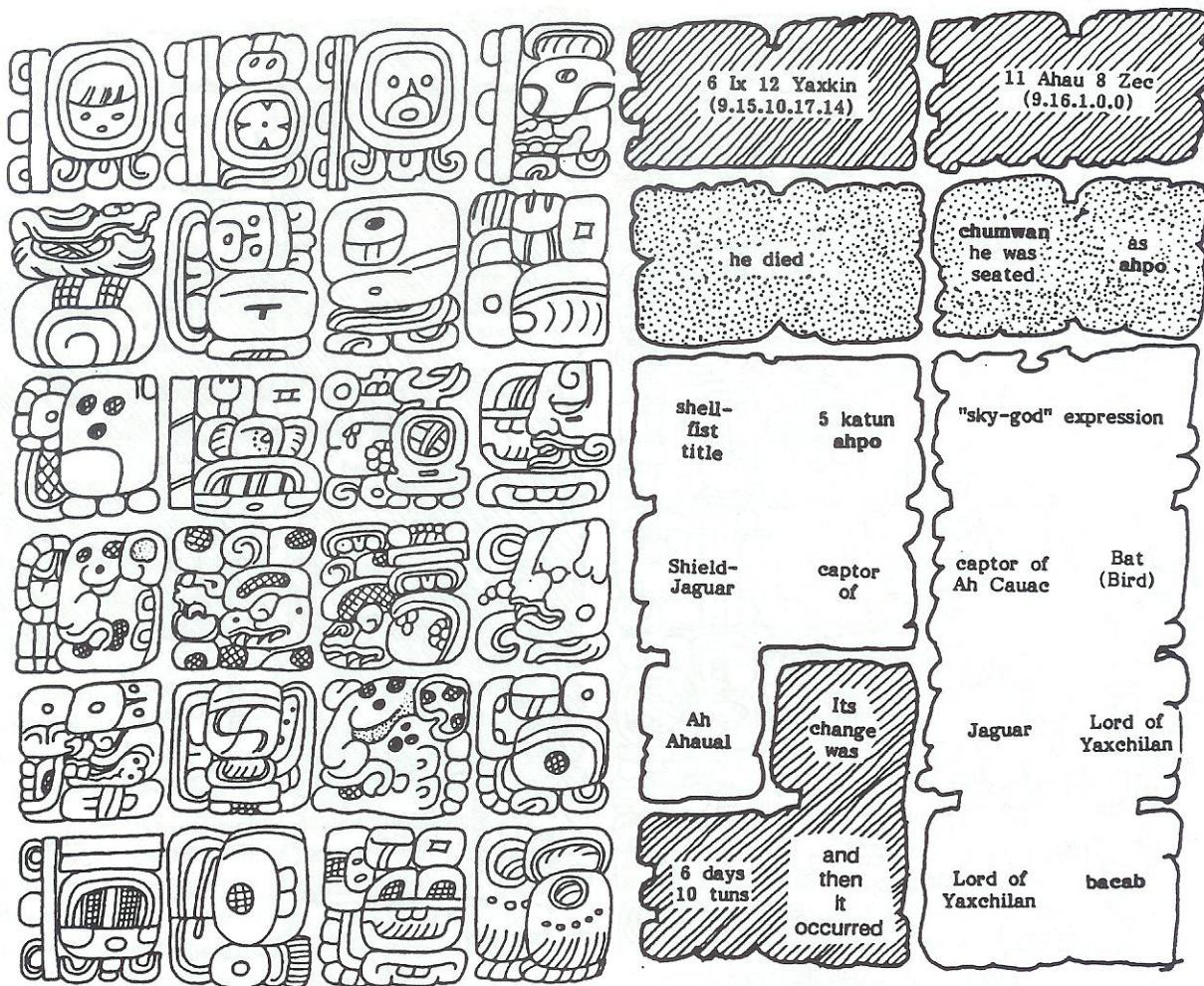
Stela 12

(it was) 0 days, 0 winals, 7 tuns
and then it will happen 13 Ahaw 18 Kumk'u
  will expire the tun, the 17th k'atun

The texts from Stela 12, located adjacent to Stela 11, also uses a multiple clause structure to linking different events: Bird-Jaguar's accession and the death of his father, Shield-Jaguar. The text is paraphrased as follows:

(On) 6 Ix 12 Yaxk'in   he died
  "Shell-fist lord," Five K'atun Lord
  Shield-Jaguar, Captor of Ah Ahawal

It's change was 6 days, 10 tuns

count until 11 Ahaw 8 Tz'ek
he was seated as *ahpo*
  "Sky god lord," Bat-Jaguar
  Lord of Yaxchilan, *Bakab*

Proskouriakoff believed the Bat-Jaguar glyph in this text to name Bird-Jaguar. Nikolai Grube has suggested that the bat reads *xu* in the name Yaxun-Balam. A *yaxun* is a small bird of prophecy mentioned in the books of Chilam Balam.

Yaxchilan Lintel 21, the last text to be discussed, links the dedication of Structure 22 by Bird-Jaguar to its dedication 297 years earlier by the seventh successor. The first clause opens with the date 9.0.19.2.4 2 Kan 2 Yax, written in a Long Count notation with the Lord of the Night and the
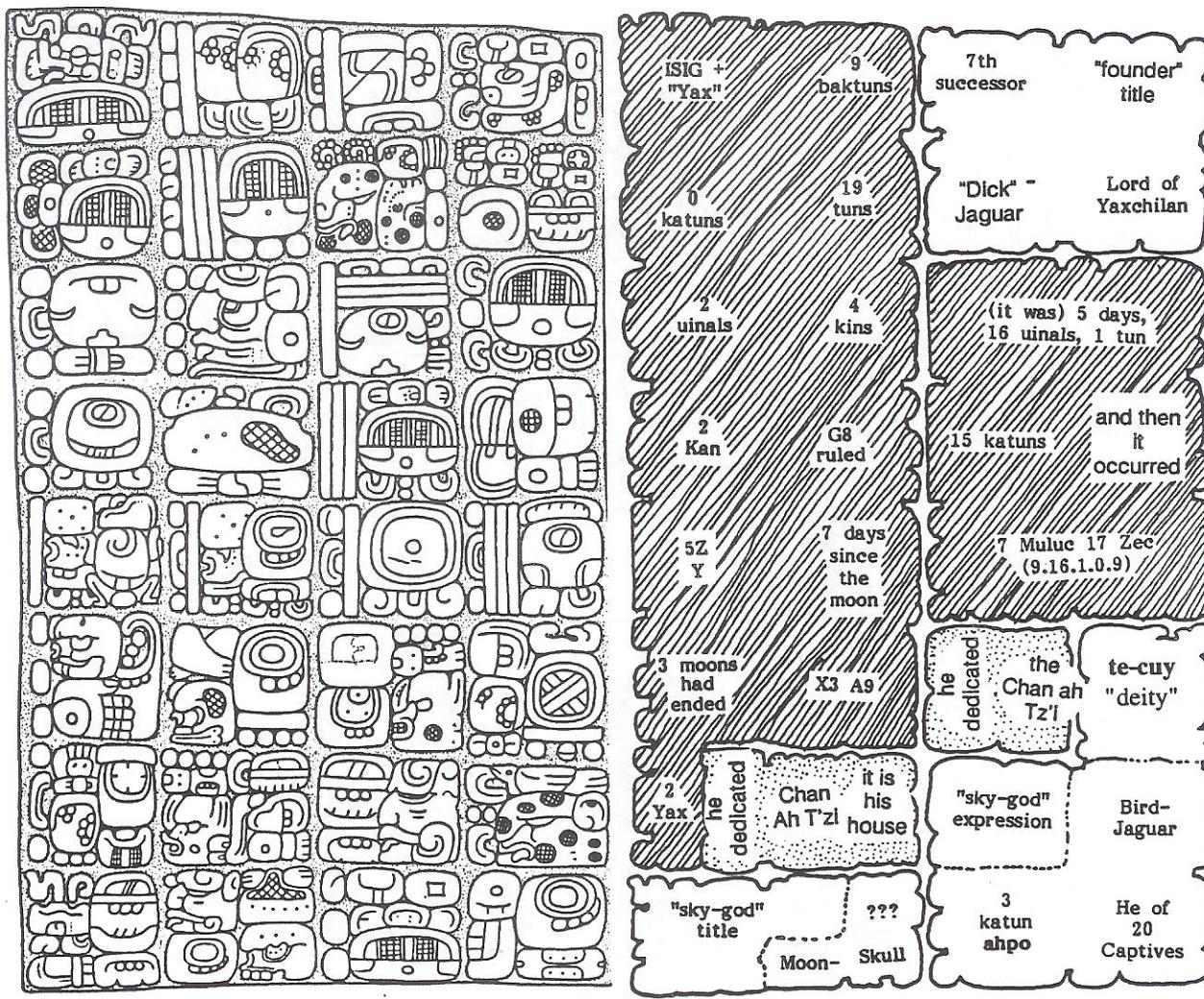
Lintel 21

age of the moon given. The verbal phrase is recorded at A7a-B7, followed by the subject, the Early Classic ruler Moon-Skull, who is named as the 7th successor of Yat-Balam, the founder of the dynasty here and on Lintel 49. A DN then records the time between this dedication and its reenactment by Bird-Jaguar nine days after his accession. This text is paraphrased as follows:

(On) 9.0.19.2.4 2 Kan
  G8 ruled, Glyph Y
    7 days ago it arrived (the moon)
      Three moons had ended.
        3X [was the name] of the 29.
  2 Yax he dedicated the 4-bat place;
    it was his house

"sky god lord," Moon-Skull,
  the 7th successor, the lord of title,
    Yat-Balam, Ch'ul Ahaw of Yaxchilan

(it was) 5 days, 16 winals, 1 tun, 15 k'atuns
 and then it happened 7 Muluk 17 Tz'ek
  he dedicated the 4-bat place
   "sky god lord," Bird-Jaguar, 3 K'atun Lord
    He of 20 Captives

This text reinforces the importance of Bird-Jaguar's act by associating it with the same event in the life of a distant ancestor and by emphasizing the continuity of these events in time. Stela 12 sanctifies Bird-Jaguar's accession by linking it

with the death of his father; it stands next to Stela 11 which twice records Bird-Jaguar's accession with Initial Series dates and in highly elaborated style. The Structure 10 inscription focuses on the last event (perhaps the dedication of the building), but that event is placed within the continuity of Bird-Jaguar's life by linking it with his death and accession. All these linkages serve to provide a framework for historical action and to reinforce Bird-Jaguar's legitimacy as ruler of Yaxchilan.

The Contents and Character of the Classic Maya Inscriptions

Berlin's article on emblem glyphs (1958) and those of Proskouriakoff on Piedras Negras (1960) and Yaxchilan (1963-64) were pivotal to the study of Maya hieroglyphic writing because they demonstrated with indisputable argument that monumental inscriptions are primarily historical in content. As their methods of analysis have been applied to other inscriptions, it has become clear that the contents of the public inscriptions are remarkably limited and focus almost exclusively on dynastic events, such as birth, heir-designation, accession, death, war, capture, etc. There are still a large number of event glyphs not yet understood, but newly deciphered ones seem to be invariably dynastic, although they may include other kinds of data. For instance, we now know that a large number of war and sacrificial rites were enacted on a schedule linked to major stations of Venus and Jupiter, but the texts recording these events do not focus on astronomy as a science, but on the historical and ritual events that occurred in association with these astronomical periods. In addition, the monumental inscriptions are remarkably redundant; the same events are repeatedly recorded in slightly varied forms or emphasizing different qualities of the event.

The particular texts presented in the previous sections are typical of the kind of redundancy we have found. The accession of Bird-Jaguar is recorded on the side of Stela 11 and in the front lower register. The side texts use an Initial Series date, the Lord of the Night, the age of the Moon, the 819-day-count station, the *hok'* expression for "accession," and *ahawel* as the office. The front

text uses an IS date, the Lord of the Night, age of the moon, and the *hok'* verb with personified *ti* and *ahawel* as the office, but it also extends Bird-Jaguar's name phrase to include his genealogy, information redundantly reinforced by placing portraits of his parents in the upper registers on the front and back of Stela 11. This monument stood in front of Structure 40, adjacent to Stela 12, which again records his accession, but this time linked by a DN to the death of his father Shield-Jaguar and recorded with the T644 *chumwan* "seating" verb and *ahawel* as the office.

The scene on the front of Stela 11 shows Bird-Jaguar and Shield-Jaguar dancing with cloth staffs shortly before Shield-Jaguar's death. Lintel 33 records the re-enactment of this cloth-staff rite exactly six haabs after the Stela 11 event, and after Shield-Jaguar's death, but before Bird-Jaguar's accession. Lintel 33 was located in Structure 13, immediately adjacent to Structure 10, housing Lintels 29, 30, and 31. These three lintels again record Bird-Jaguar's accession, linked by DN to his birth and two undeciphered events occurring on the oxlahuntun of K'atun 16.

Bird-Jaguar's accession is again recorded on Lintel 1 in Structure 33, perhaps Bird-Jaguar's most important building. Here the event is shown as a dance with the God K scepter and written in a progressive *ti* construction featuring T670 "to receive" as the verbal noun. Lintel 3 records the same event and verbal phrase again, but on a date four years after the accession on the occasion of a hotun ending. Centered between these two lintels, Lintel 2 records the rites celebrated on the occasion of the fifth tun anniversary of Bird-jaguar's accession. The scene shows Bird-Jaguar and his son Shield-Jaguar II dancing with "tree" scepters.

The same "tree" scepter rite is shown on Lintel 5 on the date 9.16.1.2.0 12 Ahaw 8 Yaxk'in. The same date is featured on Lintel 42, from a building at the opposite end of the site, but the scene shows the God K scepter event, instead of the "bird" scepter rite. On Lintel 5, Bird-Jaguar stands with a woman holding a bundle, while on Lintel 42, he stands with Kan-Tah, the male who appears on Lintel 8 as his battle companion. We could interpret this change of verb, rite, and actors either as a records of unrelated events that happened to occur on the same day, or as differ-

ent, but complementary records of the same event or ritual (as in the different records of Bird-Jaguar's accession rites). This latter assumption is supported by Lintels 6 and 43, which also record differing scenes of events occurring on the same day. As in the previous pair of scenes, the actors are different--Bird-Jaguar and Kan-Tah on Lintel 6 and Bird-Jaguar and Lady Balam on Lintel 43. However, in this pair of lintels Bird-Jaguar holds the same object and the verbal phrases are the same. The use of two sets of lintels allows the scribe to record different kinds of information about the same ritual action, especially when the ritual is complex or involves different phases or many important persons. By comparing these kinds of multiple records, we can begin to reconstruct ritual sequences and to understand the kinds of actions that were needed to sanctify the transfer and exercise of power. The chapter on Yaxchilan in *A Forest of Kings* demonstrates how the study of these patterns allow us to reconstruct and interpret history from the raw material of events and dates.

The redundancy and limited contents of the Yaxchilan inscriptions also characterizes the inscriptions of other sites. At Palenque, single events are recorded as many as ten times in the texts of the Group of the Cross. The longest readable text surviving from the Classic period, the panels of the Temple of Inscriptions at Palenque, is remarkably repetitive and it contents restricted. The first two and one-third panels record a k'atun history, possibly the proto-type to the *Chilam Balam* histories, of K'atuns 4 through 13. The middle third of the west panel is not yet understood, but it appears to record supernatural/cosmological events during the lifetime of the protagonist Pakal, and the last third of the text records the accession and death of Pakal's wife, his death, and the accession of his son. The Temple of Inscriptions at Tikal, according to Jones (1977), records the same kind of dynastic sequence and k'atun history as the Palenque text, but it begins in Bak'tun 7 (Olmec times). The hieroglyphic stairs at Copan again records the same kind of information, but to captures and sacrificial rites in the history of Copan.

With rare exception, the stelae of Tikal record the same kind of events throughout the history of the site. The most frequently recorded events are period ending rite, often linked by DN to some important event in the ruler's life, such as accession. Birth and death events are not found in these texts. The lintels of the Temple focus on sacrificial rites with special concentration on ancestral rites and the afterlife.

Almost all surviving texts from the Classic period are from the public domain and were erected as a part of the process that documented the history and legitimate rights of the dynasties of local sites. Very often, as at Yaxchilan and Tikal, the history as presented publicly was limited to the significant events in the lives of the rulers and the placement of these events into the continuity of history at that site; in other words, delineating the linkage between the lives of contemporary rulers and their historical and supernatural forebears. At some sites, such as Palenque and Tikal, this public history was extended to include legendary and mythical time. Tikal declares that its lineage began in -1142 and Palenque rulers extended this continuity to include both past and future mythological time, and the actions of historical rulers were linked to identical action of supernatural or to cosmological/astronomical events. The function of these texts both at Tikal and Palenque was not to record religious myths, but to demonstrate supernatural sanction for the living rulers who commissioned them.

This overwhelming concentration on dynastic documentation and its supernatural and historical sanctions may result from the fact that only the public inscriptions have survived. We do not have the books. Less public documents, which must have existed to document detailed histories and genealogies (such as in the Mixtec codices), tribute records, trade and commerce, prescriptions for rituals, etc., have not survived. The great majority of texts surviving from the Classic period are of three types: (1) those placed in public space and in or on public buildings; (2) those on portable objects used in ritual and dress; and (3) those in tombs and caches, usually on pottery, but also in the form of wall murals. Obviously, this sample is biased, but at the same time, it gives us a record of those rituals, information, and beliefs that were successfully used to perpetuate social order and ex-

plain their place in the cosmos. In *A Forest of Kings: the Untold Story of the Ancient Maya*, David Freidel and I have tried to illustrate how these kinds of data can be used to reconstruct history.

Deletion, Gapping, and Couplet Structures

The texts given previously as examples of multiple clause structure were chosen because each of the constituent clauses are complete, containing a date, verb and subject. However, like all languages, it is not required that all parts of a clause be retained in every context; redundant information

tion can be deleted and independent clauses linked into compound structures, as in the English sentence "He turned the key and started the car." The most frequent kind of deletion occurs in texts that repeat an event as the base of a new count of days. Redundant information can also be deleted when two verbal phrases having the same subject are used within one clause structure; in this context, the subject need be recorded only once. The following passage illustrates these kinds of deletion.

The passage from Palenque records three events in two clauses. In the first clause, Chan-Bahlam's birth is linked to his accession by DN. If both

Information deleted from Clause 1.
Subject of birth: Chan-Bahlum
Date of birth:
        2 Cimi 19 Zotz' (9.10.2.6.6)
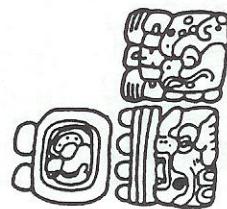
Information deleted from Clause 2.
Subject of seating: Chan-Bahlum
Date of seating:
        8 Oc 3 Kayab (9.12.11.12.10)
Date of "inverted sky":
        2 Cib 14 Mol (9.12.18.5.16)

Palenque Tablet of the Foliated Cross

(it was) 4 days, 6 uinals | 9 tuns | 2 katuns

(since) he was born | and then he put on the headband

on himself | bac way

Mah Kina Chan-Bahlum | Lord of Palenque

(on) 8 Oc 3 Kayab (9.12.11.12.10)   Clause 1

Clause 2

(it was) 6 days, 11 uinals, 6 tuns

chumlah | to ahawle

iwal pili | u chiltin | "inverted sky event

Triad IG | GI

GII | GIII
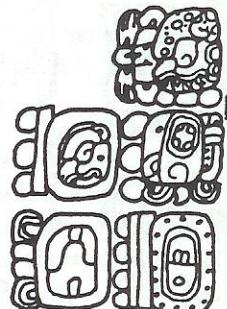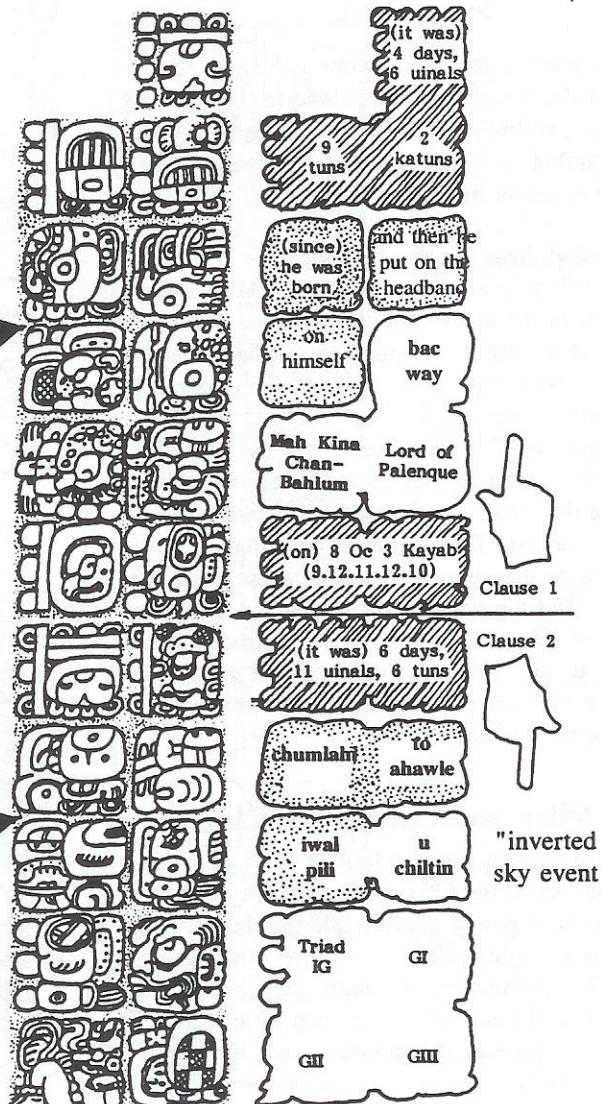
events were recorded in a independent clause with the full specification of data, it would record the date of the birth, the birth verb, and its subject, as in the passage from Lintel 30 previously discussed. Accession would follow the DN and include date, verb, and subject. In this passage, however, the date of birth and the name of who is

Yaxchilan Lintel 29-31
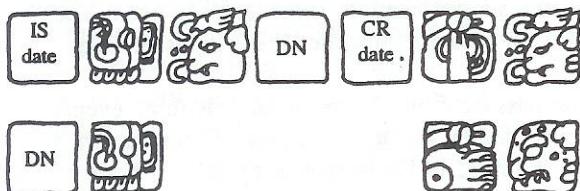
Palenque TFC

born are deleted; the chart below compares the syntax of the Yaxchilan and Palenque clauses. The information in both passages is fully transferred without ambiguity, but the Palenque passage has deleted redundant information.

The second clause in the Tablet of the Foliated Cross text begins with a restatement of the accession event in the clause above, but since the subject of that accession has just been named, there is no need to record it again. Instead of recording "DN verb^1 subject^1 date^1 verb^2 subject^2 date^2," the structure is "DN verb^1 verb^2 subject^2." Note that in this second clause, the subjects of the two verbs are different; yet their identities are clear from the context. This clarity of information seemed to be the factor controlling these kinds of structures and the patterns of gapping. As long as the deleted information can be reconstructed from the context, any pattern of deletion and gapping within the syntactical possibilities of Maya languages is acceptable.

Deletion and Couplet Structures

Floyd Lounsbury was the first to recognize couplet structures in the Classic inscriptions. A couplet consists of paired clauses relating the same information in slightly altered and often contrasting forms. The prominence of couplet structures in Maya oral traditions and paired oppositions in Maya languages was documented, and Edmonson had identified the couplet as a major form in the

Popol Vuh. Lounsbury's analysis of the calendric data and syntax in the Tablet of the Cross provided the first indisputable evidence of couplet structures in the inscriptions.

In the illustrated passage, each clause begins with arithmetic information that was the clue to the analysis. In the first clause, a DN is counted from the event recorded in the previous passage to

Part 1 of the couplet
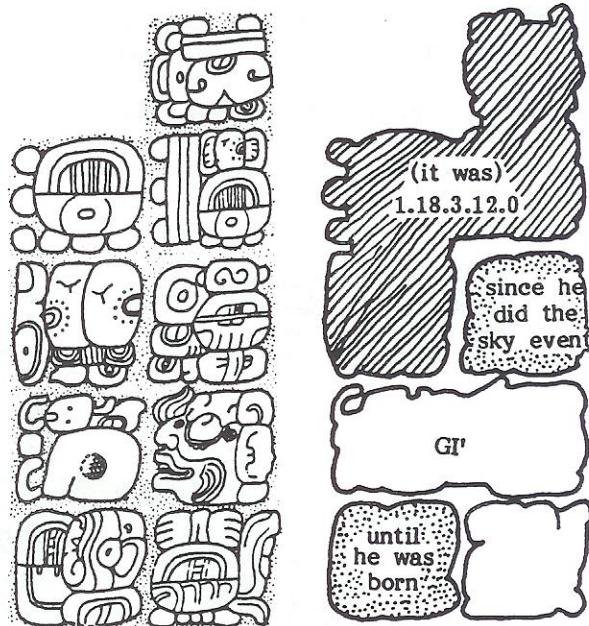
Part 2 of the couplet
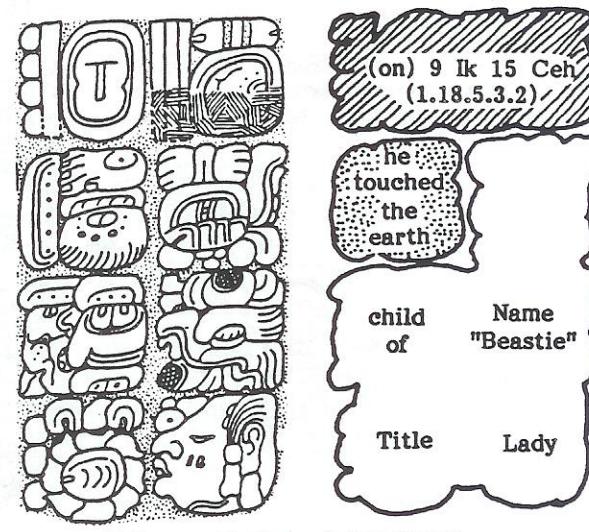
Palenque Tablet of the Cross

the date of the event featured in this clause. The arithmetic is as follows:

= 13. 0. 1. 9. 213 Ik''end of Mol
= 1.18. 3.12. 0
= 1.18. 5. 3. 2 9 Ik''15 Keh

Neither date is explicitly recorded, but the DN is followed by a restatement of the verb and subject of the earlier event. The clause ends with a statement of the featured event "birth" and its subject. The birth is marked with the PEI so that the temporal relationship between the two events is not subject to misinterpretation. The count is from the earlier "sky event," enacted by GI <u>until</u> the birth.

The second clause begins with the CR 9 Ik'' 15 Keh, the later of the two dates implied in the previous clause. In other words, the two clauses relate events that occur on the same day. The first clause tells us how many days this date was after the previously recorded event; the second gives us the name of that day. The CR specification is followed by a verb and its subject. The verb is different, but the glyph naming the subject is the same as that in the first clause. However, in the second clause we get the additional information that he is the "child of Lady Beastie." Since the date and subject is the same, the verbs ought to record the same event. Lounsbury found that in modern Chol a metaphor *il pañimil* "to see the world" is used as the term for "birth." Other senses, such as touch, can be used in this metaphor as well as the verb "to experience." The glyph in the second part of the couplet is composed of a possessive pronoun preceding a hand touching the phonetic combination *ka-b(a)* "earth." The glyph apparently reads "he touched the earth (or world)," the Classic version of the metaphor used by Chol speakers today. The verbs in both halves of the couplet are semantically equivalent; they both record a terms for "birth."

The recognition of couplet structures and the use of deletion and gapping proved to be extremely useful in deciphering individual glyphs, in syntactical analysis, and in identifying structurally equivalent phrases. The usefulness of these technique are particularly well illustrated in two Late Classic texts from Tikal. The text on Stela 22 is composed of two clauses arranged in a couplet with

the second clause repeating information in the first. The text begins with a statement of the date 13 Ahaw 18 Kumk'u, specifying that the CR corresponds to the 17th k'atun. The verb is "he ended the tun" with the subject named as Ruler C. His name phrase includes a lengthy series of titles, including his designation as "the 29th successor" and as the "child of Ruler B." The first clause concludes with the name and title phrases of Ruler B.

The second clause opens with a DN of 2.1.16 and an earlier CR 11 Kan 12 K'ayab (9.16.17.-16.4). The event that occurred on this date is recorded as "was seated as *batab*," but the subject is not named. This verb is marked by the AEI and

13 Ahau 19 Cumku
(9.17.0.0.0)

the 17th katun

he ended the tun

Ruler C

Lord of Tikal — title

the 28th — successor

title — child of (father)

Ruler B — Naab-Uinic Mah Kina

Lord of Tikal — 4 katun

batab
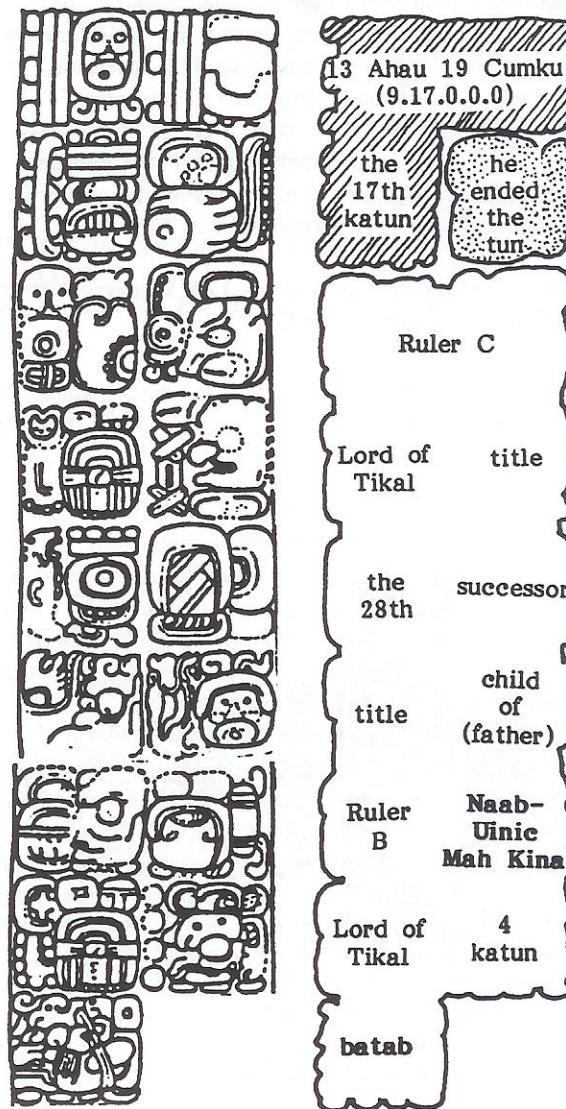
followed by the "scattering" verb with an infixed
PEI and a deleted subject. The temporal relation-
ship between the two verbs is, therefore, specified
with the "seating" marked as the earlier of the two
events; it must correspond to the earlier of the
two dates. The "scattering" verb is a pictograph of
the action shown in the scene; the monument was
carved and erected to show the ruler engaged in
this rite. Since only two dates are recorded and
since we know that the earlier of these dates is the
day of the ruler's accession, the "scattering" rite
has to have occurred on the second date. It is the
ritual celebrating the end of K'atun 17. The first
clause names the date of the monument and tells
us it was a period ending and that the person who
ended the k'atun was Ruler C. The second clause
reiterates the first by telling us that the period end-
ing occurred two years after Ruler C's accession,
and that he ended the k'atun with a "scattering"
rite, which we now know to be a act of "blood-let-
ting." The pictorial information given as a parallel
set of data shows Ruler C at the instant he scatters
the blood. The text is paraphrased as follows:

(On) 13 Ahaw 18 Kumk'u the 17th k'atun
He ended the tun Ruler C

Lord of Tikal, the 29th successor
The child of Ruler B
Nab-Winik Mah K'ina
Lord of Tikal, 4 K'atun *Batab*

(It was) 16 and 20 days, 2 tuns
Since he was seated as *batab*
until he scattered his blood.

The second Tikal text is from Lintel 3 of Temple
I, a text that looked impossibly complex until I re-
alized that the most of the glyphs refer to a single
event, recorded in three parallel clauses. The en-
tire text consists for four clauses, the first of
which records a base date, 9.13.3.0.0, and a war
event in which Jaguar-Paw of Site Q apparently
was captured. [**1991 addition:** Nikolai Grube has
read the verb as *hub u tok'-pakal*, was thrown-
down the flint-shield of Jaguar-Paw.]
The remainder of the text, C1-F12, records a sin-
gle event--the celebration of the 13th k'atun anni-
versary of the last date on Stela 31 forty days af-
ter the throwing down of the flint-shield. The
event phrase in the first clause recording this anni-
versary ritual includes two verbal expressions--
T174:565 verb + a prepositional phrase and "fish-

Scattering: the glyph

Deleted information:
subject: Ruler C

Scattering: the icon

Part 1 of Couplet

(it was) 16 and 20 days

2 tuns

11 Kan

12 Kayab

(9.16.17.16.4)

since he was seated

as batab

until he scattered blood

Deleted information:

Subject: Ruler C
Date: 13 Ahau 18 Cumku

Part 2 of Couplet

Tikal Stela 22
(drawing by W.R. Coe)

Figure labels:
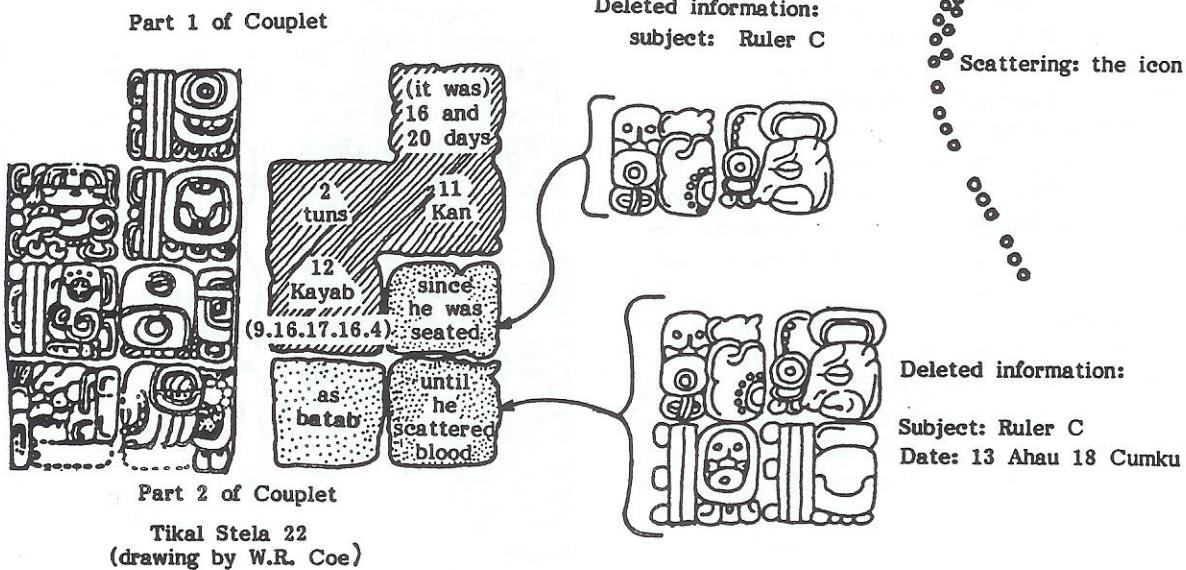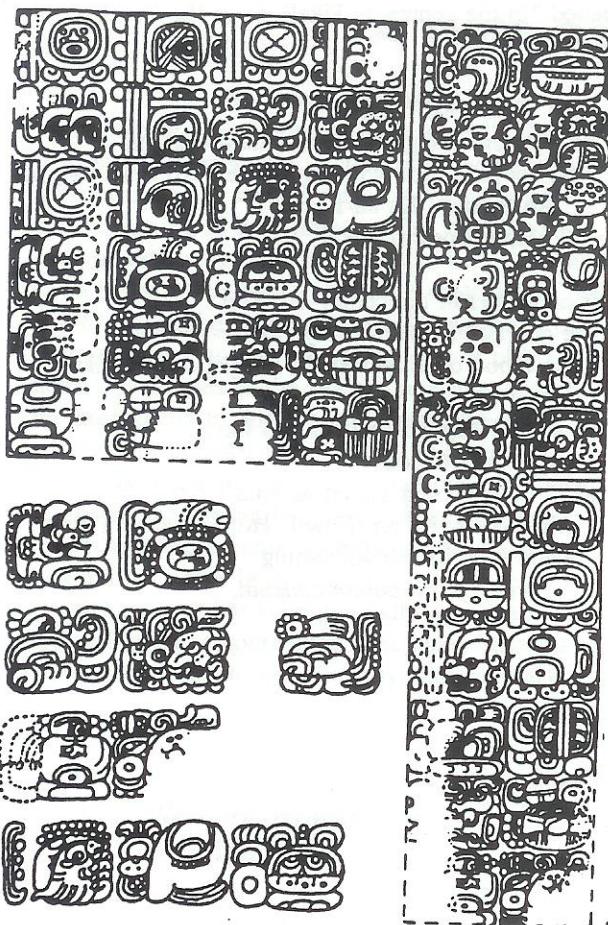
12 Etz'nab 11 Zac (9.13.3.9.18) — Part 1 of Triplet

9 Ahau 13 Pop (9.13.3.0.0) | child of | Caanal

new cycle | (it was) 18 days 7 uinals | he acted in the Nu-Balam | T1001 title — *sac nik* | *Na Hus*

1 Etz'nab 11 Ch'en (9.13.3.7.18) | he conjured the god | he with his lancet | Lady Jaguar-Throne

threwd own | the flint shield of | 'm his tongue | Ah Cacaw | title | child of

Great Jaguar-Paw | Lord of Site Q | Sky-God K | Lord of Tikal | *ch'ahom* | *wan*

captive | T518 ahau | it appened | God K | Shield-Skull

Clause 1 — in the center of Tikal — Lord of Tikal | (it was) 2 days 10 uinals

Part 2 of Triplet

13 tuns | 5 Cib

Part 3 of Triplet — 14 Zotz' | since he was seated

as batab | Ah Cacaw

Sky-God K | Lord of Tikal

```
9.12. 9.17.16    5 Cib       5 Zotz'
13.10. 2
9.13. 3. 9.18   12 Etz'nab 11 Zac
```

[and then] he acted in the Nu-Balam

kal Temple I Lintel 3 (drawing by W.R. Coe)

"in-hand" blood-letting. The subject of both verbs is recorded as Ruler A in a three glyph phrase that includes his personal name, a "sky-God K" glyph, and the Tikal emblem glyph.

In previous analyses of this text, I had not realized that a second clause begins at C6 with a verb. Previously, I had taken this glyph to be the T74:528.515 title appearing at E10, but the suffix is clearly T116 and the superfix is T79, a glyph associated with anniversary events at Palenque, Tikal, and Copan. I now believe the suffix to be part of the T130.116 -*wan*, known to mark positional verbs in the inscriptions. The damaged glyph below T79 seems to be T565 *ta*, which in combination with T79 functions to record anniversary rituals at Copan. I suspect the verb is a direct substitution for the T174.565 verb at C2.

The glyph following the verb consists of T606, a half-darkened sign with an infixed *k'in*, and the

main sign of the Tikal emblem glyph. A similar sign is associated with an anniversary verb on Lintel 3 of Temple IV at Tikal, but even more importantly an almost identical glyph is associated with a "fish-in-hand" verb on Yaxchilan Lintel 25. However, the Yaxchilan glyph has "water-lily" instead of the *k'in* variant, and the main sign of the Yaxchilan emblem glyph instead of that of Tikal. This glyph apparently specifies some important condition of the blood-letting rite.

The agent of this second clause is named with the T606 glyph at E1, a possessed noun best paraphrased as "the child of." The agent of the anniversary event is "the child of Lady Jaguar-Throne and of Shield-Skull, Lord of Tikal." Chris Jones has already identified this child as Ruler A.

The third clause once again reiterates the anniversary event, this time in association with Ruler A's accession. A DN leading from the accession to the

anniversary date begins the clause; it is followed by the date of the accession, "was seated as *batab*[1]," and the subject of the accession event, Ruler A. The anniversary event is recorded in the last two glyphs of the text; the subject, Ruler A, is deleted. The featured event of this clause is not the accession, but rather it is the anniversary ritual, which is placed in temporal association with the accession. A paraphrase of this triplet structure is as follows:

[**1991 addition:** during the 1990 workshop and after, we discovered many new things about these verbs: The first phrase refers to the jaguar guardian and the palanquin to which it is mounted. It very probably records that Ruler A mounted the palanquin. Nikolai Grube has just recently found the phonetic value of "fish-in-hand." It is *tzak*, "to conjure gods and spirits." Here, it read *u tzak k'u tu ch'am ti yak'il*, "he conjured god with a lancet in his tongue. And finally, that all of this hap-pened "in the center of Tikal" or in the Great Plaza.

(On) 12 Etz'nab 11 Sak
he did something in the nu balam chaknal
   he conjured god with his harvest from his tongue
      Ah Kakaw, Ka'an-K'awil
         Holy Lord of Tikal

It happened in the center of Tikal
the cherished one of Lady Jaguar-Throne
   the blood of Shield-Skull, Holy Lord of Tikal

(it was) 2 days, 10 winals, 13 tuns
(on) 5 Kan 14 Zotz'
after he had been seated as *batab*
   Ah Kakaw, Ka'an-K'awil, Holy Lord of Tikal
     and then he did something
       with the *nu balam chaknal*.

A Note on Orthography

by Peter Mathews

The field of Maya studies, and especially the field of Maya epigraphy is currently undergoing a transformation in several ways, at least one of which is going to be a little painful: the conventions of orthography. When the Spanish priests arrived in the Maya area in the 16th century and began to record the various Mayan languages in the Latin alphabet, they encountered several phonemes, or sounds in the Mayan languages that did not correspond to Spanish phonemes and yet which were distinctive in Mayan. In the grammars, vocabularies, catechisms and other writings in and on the Mayan languages, therefore, the priests adopted several symbols for the phonemes that did not occur in Spanish.

Recently, it has been generally agreed to standardize Mayan orthographies. The major impetus towards this decision was given by contemporary Maya groups who are writing in their own languages. Many Maya epigraphers have decided to conform to the new orthography, partly for the sake of consistency but mainly out of a sense of solidarity. Ultimately this will result in an easier-to-understand orthography. However, for those used to a particular orthography, for example Yucatec Mayan, the transition period will be somewhat painful. "*Kukulcan*" in the old Yucatec orthography, for example, will become *K'uk'ulkan* in the new, and the month "*Cumku*" will become *Kumk'u*.

For some, the new orthography will perhaps seem especially strange when dealing with calendrical termsthe names of the Maya time periods, and the Maya day and month names. Below I present a concordance of these terms. I include the names most probably used by Ch'ol Mayan speakers during the Classic Period.

The Day Names

New orthography	16th C. Yucatec	Classical Ch'ol
Imix	Imix	Imox(?)
Ik'	Ik	Ik'
Ak'bal	Akbal	Ak'bal
K'an	Kan	K'an
Chikchan	Chicchan	Chikchan
Kimi	Cimi	Kimi
Manik'	Manik	Manich'
Lamat	Lamat	Lamat
Muluk	Muluc	Buluch(?)
Ok	Oc	Ok
Chuwen	Chuen	Batz'
Eb	Eb	Eb
Ben	Ben	Ben(?)
Ix	Ix	Hix
Men	Men	Men(?)
Kib	Cib	Kib
Kaban	Caban	Kaban
Etz'nab	Etz'nab	Etz'nab
Kawak	Cauac	Chahk
Ahaw	Ahau	Ahaw

The Month Names

Pohp	Pop	K'anhalaw
Wo	Uo	Ik'-k'at
Sip	Zip	Chak-k'at
Sotz'	Zotz'	Sutz'
Tzek	Tzec	Kasew
Xul	Xul	Chichin
Yaxk'in	Yaxkin	Yaxk'in
Mol	Mol	Mol
Ch'en	Ch'en	Ik'
Yax	Yax	Yax
Sak	Zac	Sak
Keh	Ceh	Chak
Mak	Mac	Mak
K'ank'in	Kankin	Uniw
Muwan	Muan	Muwan
Pax	Pax	Ah K'ik'u
K'ayab	Kayab	K'anasi
Kumk'u	Cumku	Ol
(wayeb)	(uayeb)	(wayeb ?)

The Period Names

k'in	kin	k'in
winal	uinal	winik
tun	tun	tun
k'atun	katun	k'atun
bak'tun	baktun"	bak'tun

Maya Dates

by Peter Mathews

To the beginner, Maya dates seem very daunting. Often they take up a large part of the text, and seem to record a particular day in many different, and confusing, ways. Basically, Maya dates have two main components. One records linear time, by giving a count of the number of days that have elapsed since the beginning of the Maya calendar. This is called the *Long Count*. The second main component records cyclical time: the date is recorded by giving its position in two different calendrical cyclesthis is called the *Calendar Round*.

There are analogies in our own calendar to these components: in a date such as Friday, October 27, 1990, the "1990" records the number of years that have elapsed since the beginning of the Christian era, and "Friday" and "October 27" record the days position in each of two cyclical calendars, one a cycle of 7 days, called a week, and the other a cycle of 365 or 366 days, called a year. In the Maya calendar, the two cycles that make up the Calendar Round are called by modern Mayan-

ists the *Tzolk'in* and the *Haab*. The *Tzolk'in* is a cycle of 260 days, made up of the permutation of 13 numbers (1-13) with twenty named days.

The *haab* is a vague solar year of 365 days, made up of 18 named "months" of 20 days each, plus 5 days added on at the end of the year. The Maya did not intercalate leapyear daysevery *haab* lasted 365 days. By convention, the 16th century Yucatec Maya names for the 20 days and 18 months are used by Mayanists, even though we now know that they were not the terms used in the majority of Classic Maya sites.

The first day of the *Tzolk'in* is "1 Imix". The next day is "2 Ik'", the next "3 Ak'bal", and so on, until after 260 different combinations "1 Imix" occurs again.

The *Haab* calendar operates slightly differently. Each "month" stays in place for twenty successive days (much as our months stay in place for 31, or 30, or 29, or 28 days, as the case may be). The first Maya month is Pohp, so the day after "1 Pohp" is "2 Pohp", then "3 Pohp", and so on, until after 365 days "1 Pohp" reoccurs. The beginning of the month was called the "seating" of the month, sometimes written "0 Pohp", and after 19 days ("19 Pohp") Pohp would be ended and the next month seated. This changeover could be recorded either "end of Pohp" or "seating of Wo".

A *Calendar Round* date recorded a particular date by giving both its *Tzolk'in* and *Haab* positions. "8 Ahau 13 Pohp" is an example of a Calendar Round date. The following day would be "9 Imix 14 Pohp", followed by "10 Ik' 15 Pohp", and so on. Since 260 and 365 have a common factor of 5, the minimal time it takes for a particular Calendar Round date (such as "8 Ahaw 13 Pohp") to repeat is 260 x 365 - 5. or 18,980 days, or 52 x 365 days. This is the so-called "52-year cycle" of Mesoamericaactually a cycle of 52 *haabs*, or years of 365 days.

The *Long Count* calendar of the Maya records time elapsed since the beginning of the Maya era, as was said above. Unlike our linear-time calendar, which records only years, the Maya Long Count counted the days that had elapsed. A typical Maya Long Count date is conventionally transcribed in the form of five numbers, each separated by a ".": an example would be the date "9.18.12.14.17". In such a notation, which in-

volves a place-value system, the "17" records units of days (called *k'in*s in Maya), i.e. 17 days. The "14" records 20-day periods (called *uinal*s or *winal*s), in this case 14 x 20 = 280 days. The "12" records units of 18 x 20 = 360 days: in this case 12 x 360, or 4,320 days. The 360-day units, called *tun*s by the Maya, were the basic computing unit for Maya historical time: apparently it was chosen because it was close to the length of the solar year. The "18" in the example above refers to *k'atun*s: these were periods of 20 *tun*s, or 7,200 days, eachin the case above, 18 x 7,200 = 129,600 days. Finally, the "9" refers to "*bak'tun*s", or periods of 400 *tun*s or 144,000 days, in the case above 9 x 144,000 = 1,296,000 days.

In other words, the Long Count records multiples of five time periods in decreasing magnitude. In the case above, the numbers are:

9 *bak'tun*s	9 x 144,000 =	1,296,000 days
18 *k'atun*s	18 x 7,200 =	129,600 days
12 *tun*s	12 x 360 =	4,320 days
14 *winal*s	14 x 20 =	280 days
17 *k'in*s	17 x 1 =	*17* days
	total	1,430,217 days

elapsed since the beginning of the Maya era.

We know that the beginning of the Maya calendar was the day "4 Ahaw 8 Kumk'u" in Calendar Round notation; this date in full was recorded as "13.0.0.0.0 4 Ahaw 8 Kumk'u". In the Thompson correlation (the most popular but by no means universally accepted correlation between the Maya and Christian calendars), this date is August 12, 3114 B.C. Most of the historically-recorded Maya dates begin with either 8, 9, or 10 as their *bak'tun* coefficient, and fall some 3300 to 4000 years after 4 Ahaw 8 Kumk'u, or between ca. A.D. 250-900.

Maya dates can be recorded in a variety of ways. The fullest version is an "*Initial Series*" date. This type of record is so-called because it usually begins a text, and therefore is the initial date in the texts. Initial Series dates record all the time period glyphs (i.e. they spell out the Long Count date), and also the Calendar Round position of the date. Very often, they also give additional information, in the form of (1) the position reached in yet another calendrical cycle, of 9 days (the so-called Glyphs G and F), (2) lunar informa-

tion (the age of the current lunation, the number of the current lunation, the name of the current lunation, and the number of days in the current lunation (Glyphs E, D, C, X, B and A). All this information, often collectively called the "Lunar Series" or "Supplementary Series", usually follows the Long Count and Calendar Round information in the Initial Series date. In a few Initial Series dates another piece of information can be added: the record of yet another calendrical cyclethis one of 819 days. In this case, however, the position *within* the 819-day cycle is not recorded, but rather the previous 819-day count "station". This station will be linked to the Initial Series date by a short *Distance Number*, which records the interval of days, months, etc. between the Initial Series date and the 819-day count station.

The Initial Series date gives the Long Count position of the date. In long texts, the dates that follow will usually not record the Long Count, because they are invariably linked to the initial date by Distance Numbers. Again, we have no good analogy in our own calendar, but it would be as if we were to say "October 2, 1990 plus 25 days reaches October 27". The "1990" of the second date can be worked out from the information provided, and so is redundant. Similarly in Maya dates, if the Long Count position of one date in a text is known, and if there are "Distance Numbers" linking that date to others, then the Long Count can be calculated and does not need to be recorded every time. Therefore most dates following the Initial Series date in a text are recorded only by a Calendar Round date.

Sometimes, however, a Calendar Round date will be accompanied by another glyph or glyphs that give a partial clue as to the Long Count position of the date. These glyphs are usually called *Period-ending* glyphs: they generally record the completion of one of the larger time periods (tuns, k'atuns or bak'tuns, or subdivisions or groupings of them). A record such as "12 Ahaw 3 Ch'en, end of a tun" says that the Calendar Round date is 12 Ahaw 3 Ch'en, and that the Long Count position of the date ends records only tunsthat no winals or k'ins are involved. The *only* Long Count position that satisfies all these conditions and that is within the Maya Classic period is 9.11.13.0.0 12 Ahaw 3 Ch'en. It would take over 540 years

for the date 12 Ahaw 3 Ch'en to recur as a tun-ending date. Another example: often the date 9.14.0.0.0 6 Ahaw 13 Muwan will be recorded simply as "6 Ahaw 13 Muwan, end of 14 k'atuns". These tun- and k'atun-ending notations are a kind of shorthand notation for Maya dates: they give clues as to the Long Count position of the date concerned, without spelling out all of the Long Count periods in "Initial Series" form. In the accompanying pages I include a list of all tun-ending dates during the Classic Period, as a guide for this very important category of Maya dates.

Finally, I should make a few comments on *Distance Numbers*, mentioned in passing above. Distance Numbers are the intervals between dates, and as such are usually crucial in establishing the Long Count position of dates that follow an Initial Series in any lengthy text. Distance Numbers are always recorded in reverse order from that of Initial Series dates: first comes the record of k'ins, then winals, then tuns and k'atuns and so on. Most commonly, the k'in and winal coefficients are combined in the one glyph, where they are both affixed to the winal sign, with the k'in coefficient on the left, and the winal coefficient above.

Often, Distance Numbers are introduced by a special glyph, called (not surprisingly) the Distance Number Introductory Glyph. Distance Numbers are also often followed by one of two glyphs, that J. Eric S. Thompson called the "Anterior Date Indicator" and "Posterior Date Indicator", because they preceded an earlier date and a later date, respectively. It is now recognized that the two glyphs are merely inflections of the verb *ut*, 'to happen, to come to pass'. The "Anterior Date Indicator" reads *uti*, "it had come to pass"; the "Posterior Date Indicator" reads *iwal ut*, "and then it happened". The decipherment of these glyphs well shows how many individuals are usually instrumental in decipherment breakthroughs. Thompson first worked out the context of these glyphs and their temporal significance in the 1940's. In the 1980's, John Justeson, William Norman, Linda Schele, David Stuart, Kathryn Josserand, Nicholas Hopkins, Terrence Kaufman and Bean Leaf (4 of them linguists, the other 4 epigraphers) all contributed to the reading of these glyphs.
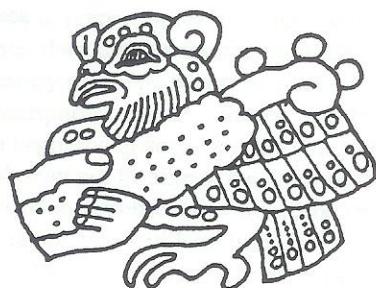
Part II
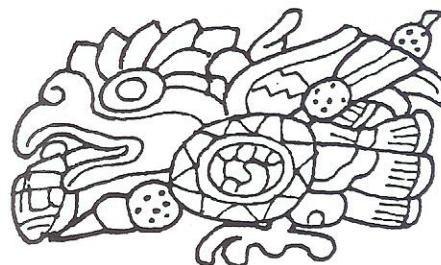
Tlaloc-Venus Warfare

The Peten Wars
8.17.0.0.0 - 9.15.13.0.0

by Linda Schele
and
Nikolai Grube

edited by Timothy Albright

composed by Linda Schele and Timothy Albright

This year the theme of the Texas Meetings is the Tlaloc-Venus wars, and the pattern of alliances that wove together the political tapestry of the Classic period in the Peten up to 9.15.0.0.0. Nikolai Grube and I have taken a chronological tack in preparing the workbook this year. This strategy has the disadvantage of breaking up whole texts and loosing their discourse structure, but it has the advantage of focusing attention on the sequential unfolding of history. The history of events we present here is not meant to be comprehensive. Instead of including all events recorded in the inscriptions, we have chosen only those related to the wars and the political events surrounding them. We have decided to begin the history with the conquest of Waxaktun by Tikal in 8.17.1.4.12 and end it with Ruler B's lintels in Lintel 4. We may not be able to cover all of this history in the sessions of the workshop, but we find this body of history to be a neatly symmetrical pattern of interrelated events. We will go as far as we can in the workshop sessions and the texts detailed here will hopefully let you deduce the rest.

We also want to acknowledge all those who have prepared the ground before us. Tatiana Proskouriakoff was the first epigrapher to begin a systematic, comparative study including all of the Maya sites. Her research in this arena was completed during the late seventies and early eighties. She died before it was finished. Her book was finally published by Texas Press last year. The intervening years have yielded many new readings that change her interpretations and readings, but we want to acknowledge that Tania led the way where others of us have followed.

Peter Mathews in his 1986 *Maya Early Classic Monuments and Inscriptions* (Institute for Mesoamerican Studies, State University of New York, Albany) provided another model of research for us. This paper came from an earlier seminar he and Gordon Willey held at Harvard on the Early Classic. His work not only used the comparative method in an exemplar way, but he identified the pattern of data that led eventually to Schele and Freidel's identification of the Tikal-Waxaktun war. In fact, war was one of the alternative explanations he offered for the shared patterns of dates and names at the two sites.

Steve Houston's, Peter Mathews's, and David Stuart's work on the histories of the Petex Batun and Dos Pilas, and Steve's early work on the inscriptions of Caracol also made crucial contributions. Their data play an important role in Schele and Freidel's reconstruction of the central Peten wars in *Forest of Kings*. Excavations in the Petex Batun region by Vanderbilt University and by the Chases at Caracol have added a lot of new inscriptions, as well as archaeological data, to the information we had available then. Some of our old interpretations have been confirmed and others have been disproven, but the *Forest of Kings* hinted at the alliance patterns that have proven to be a critical part of Classic-period politics.

All of these ideas and much of the basic data was in place when Simon Martin, an English epigrapher, first came to the 1991 Workshop on the inscriptions of Bird-Jaguar of Yaxchilan. Simon had been studying Site Q on his own for many years and shared some of his quite revolutionary conclusions with Sandy Bardsley and other participants of that workshop. He continued his study that spring and summer expanding it to include Tikal, Naranjo, and Site Q. He joined with Nikolai Grube to initiate a remarkable study of the alliance patterns and warfare of the Classic period. He and Nikolai have shared their insights with us at the Advanced Seminar over the last two years and Simon gave a paper on some of his interpretations at the Mesa Redonda at Palenque in 1993 and here at the Symposium session of the 1994 meetings. He and Nikolai will be publishing their full argument on these matters in the very near future. What Nikolai and I present here grows out of our own work with Federico Fahsen over the last three summers, but it especially relies on the enormously important work that Simon and Nikolai have been doing together.

Carlson, John
 1991 Venus-regulated Warfare and Ritual Sacrifice in Mesoamerica: Teotihuacan and the Cacaxtla "Star Wars" Connection. Final draft of a paper presentd at the Third "Oxford" International Conference on Archaeoatronomy, St. Andrews, Scotland, Spet. 10-14, 1990

Freidel, David, Linda Schele, and Joy Parker
 1993 *Maya Cosmos: Three Thousand Years of Shamanism*. New York: William Morrow and Co. (especially the chapter on warfare).

Grube, Nikolai
 1993 Epigraphic Research at Caracol, Belize. An unpublished manuscript circulated by the author.

Houston, Stephen, Stacey Symonds, David Stuart, Arthur Demarest
 1993 A Civil War of the Late Classic Period: Evidence from Hieroglyphic Stairway 4. Recent Finds at Dos Pilas, Guatemala III. An unpublished paper circulated by the authors.

Houston, Stephen, David Stuart, Claudia Wolley, and Lori Wright

 1993 A Death Monument: Dos Pilas Throne 1. Recent Finds at Dos Pilas, Guatemala II. An unpublished paper circulated by the authors.

Palka, Joel, David Stuart, and Stephen Houston
 1993 A Coming of Age Ceremony? Dos Pilas Panel 19. Recent Finds at Dos Pilas, Guatemala I. An unpublished paper circulated by the authors.

Houston, Stephen
 1993 *Hieroglyphs and History at Dos Pilas: Dynastic Politics of the Classic Maya*. Austin: University of Texas Press.

Proskouriakoff, Tatiana
 1993 *Maya History, edited by Rosemary Joyce*. Austin: University of Texas Press.

Schele, Linda, and David Freidel
 1990 *A Forest of Kings: Untold Stories of the Ancient Maya*. New York: William Morrow and Co. (especially the chapters on the Tikal-Waxaktun wars and Starwars).

Martin, Simon
 1991 Some Thoughts and Work-in-Progress, Summer 1991. A manuscript circulated by the author.

Tikal pre-8.14.0.0.0

The earliest named ruler of Tikal appears on Stela 31, but unfortunately the date associated with this passage was destroyed. Peter Mathews has suggested that the same name, Foliated-Jaguar, appears as a effigy held in the hand of the person portrayed on Stela 29. If he is right, the Foliated-Jaguar person would be the king from about 8.12.14.8.15 until sometime before 8.14.0.0.0.

Tikal Stela 31 (8.14.0.0.0)

This passage records that Jaguar-Paw (Chak-To-Ich'ak) was reigning by the 8.14.0.0.0 period ending. In the past, several epigraphers, including Schele, have in earlier structures suggested that there may have been two Jaguar-Paws based on the intervening date and seating on the Leiden Plaque. However, most epigraphers now suspect that the Leiden Plaque refers to a subordinate lord, if it refers to a Tikal personage at all.
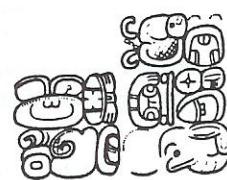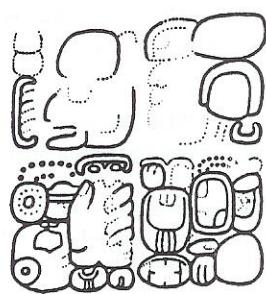
Caracol Ballcourt Marker 3 8.14.13.10.4 (Jan. 14, 331)

Ballcourt Marker 3, from the Group B Ballcourt in Caracol, is a Terminal Classic Monument. The text, however, refers back to an unknown event in the early history of Caracol. At this date something is done by the successor of, or, in the generation of *te?-k'ab chak*, an individual associated with the Caracol emblem. This is an important person in the early history of Caracol, perhaps the founder of the local lineage. His name also occurs before a *tzak* verb on Stela 22. In a different sentence on Stela 22 the same verb is recorded, the agent being K'an II (Tum Ol K'inich).

•• *All western dates are given in the Julian calendar.*

Tikal **8.16.17.9.0** (May 4, 374)
This text from the Marcador records the accession of the head of the lineage in control of Group 6C-XVI. He was apparently the leader of this lineage during the Tikal war.
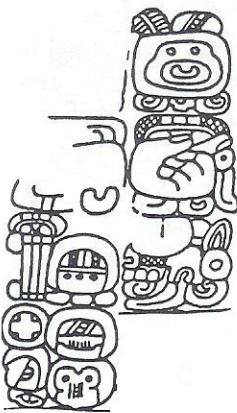
Tikal Stela 31 (**8.17.0.0.0**-Oct. 20, 376)
    If this is the same Jaguar-Paw (and we think it is), then he was still in office three k'atuns later and must have been at least sixty and more likely seventy or older at the end of this k'atun. The period ending took place at a place called K'an-Te-Na.
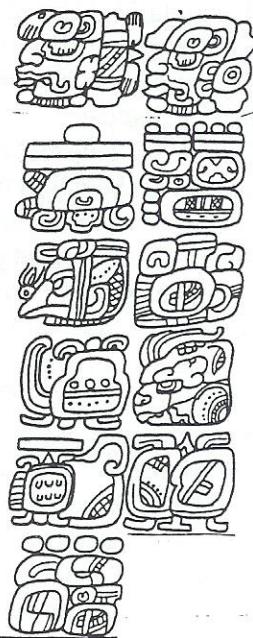
Tikal Stela 31, Marcador, Waxaktun St. 5, **8.17.1.4.12** (Jan. 15, 378)
That this date appeared at both Waxaktun and Tikal led Peter Mathews originally to suggest that there was an important interaction between Waxaktun and Tikal on that date.
Tikal St. 31: This text links the date of the event to the end of the 17th k'atun and thus anchors it in time. The verb includes the hand with bauble that Stuart has read as *tzutz*, "to end," and Schele has read as *hom*, "to end" and "to down vaults." There is good phonetic evidence for both readings, so that we suspect the sign may have been polyvalent and read according to the phonetic complements associated with it. Both meanings are appropriate in this context.

The next glyph is *ok* combined with the sign that goes with the ISIG. Schele (*Texas Note 26*) has suggested that this sign reads *ki* or *ko* in this context, but Grube has noted that *ok/och* is a verb that can take a *tzi* suffix as an inflectional suffix. In any case this passage is very similar to a passage on Tikal Lintel 3 of Temple 4 in which the base of a palanquin captured in battle the day before undergoes a *hom/tzutz* event. We suggest that the glyphs on Stela 31 following the *oktzi* glyph are the name of a palanquin taken in battle and perhaps the patron gods of Waxaktun. This latter suggestion may be supported by occurrence of visually similar glyphs in the murals of B-XIII at Waxaktun. The actor in this drama is the man Peter Mathews identified as Smoking-Frog—perhaps K'ak'-Sih or Sih-K'ak' in its original form.
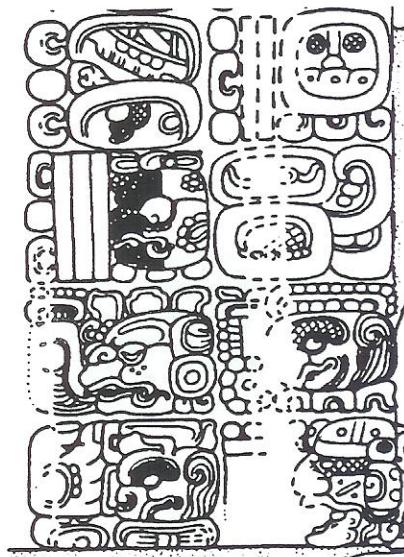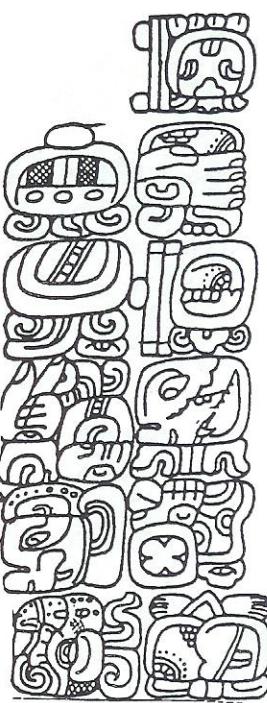
Waxaktun BXIII mural

Tikal T4, L3

The repetition of the event has a glyph Fahsen and Schele (*Texas Note 8*) have read as *yah* "to wound in some part of the body." We originally followed Peter Mathew's suggestion that this referred to penis bloodletting, but Grube points out that *yah* has the more general meaning of "to suffer." This is what we think is being recorded here. The glyph reads either "he was wounded" or "he suffered."

The next glyph has been independently read by Grube, Houston, Stuart, and several other epigraphers as *och ha*, "he entered water." All of them take it to be an alternative to *och bih*, "he entered the road," as a metaphorical phrase referring to death. The actor is Jaguar-Paw himself. The entire phrase reads "he suffered (or he was wounded), he entered the water, Jaguar-Paw."

If this Jaguar-Paw ended the 14th k'atun as we suggest then he would have been an old man at the time of the battle. This new interpretation of the text suggests that he was wounded in the battle and died of his wounds. This may explain why Smoking-Frog became the high king of Tikal after the battle.
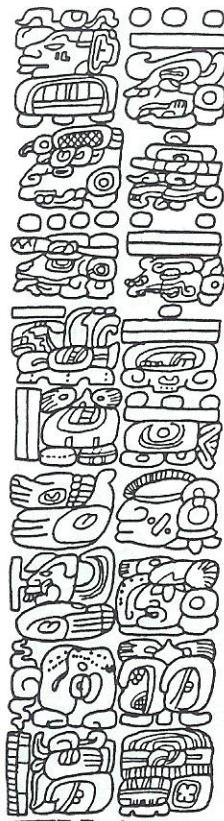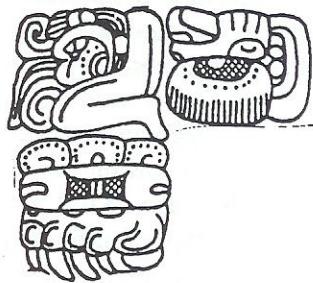
The Marcador: This text repeats the events three times. The first passage records the date in long count form with the moon age included. The event is the head of the old god effigy that is in Burial 10 at Tikal. Freidel and Schele suggested that the event may refer to the action this god oversees, which in the effigy at least concerns a severed human head. In the examples on the Marcador, each example has a footprint sign preceding the god head as a phonetic complement. This may be an early form of *hu*, although this does not help much at the present time.

The actor is Smoking-Frog who carries the "chak-te" title as he does in the Stela 31 text. This title is certainly a war-related title that is used as the title of the high king of Tikal after these events. The name phrase ends with a title that seems to name Smoking-Frog's province or barrio. Unfortunately, we cannot yet read all of the signs. It's *Ah-??-te-nal* (perhaps *Wi-te-nal* an important location associated with Smoking-Frog, Curl-Snout, and these events at Tikal). And finally, we get *Mutul Kan Kun*, "Tikal sky-seat," as part of the locative.

The second passage begins with a paired couplet of night and day as a replacement of the *tzak* "change" glyph that introduces new dates or clauses in Maya inscriptions. The "old-god" verb is repeated, but this time we have a location that appears to read *ku-yi-kan-kun* (or *pu-kun*, the sky glyph is upside down). *Kuy* is the word for "owl," but it is also used in phrases for war and soldier. The subject following is *yitah* and "spearthrower owl." Schele and Freidel in *Forest of Kings* and *Maya Cosmos* identified this phrase with the Teotihuacan metaphor for war and as a prototype for the *tok'-pakal* phrase used by the Maya. Grube and Schele ("Kuy as the Word of Owl," upcoming in *Mexicon*) showed that the owl is *kuy* and that it was profoundly associated with war, God L, and soldiers throughout Maya history. Freidel and Schele suggested that the spearthrower-owl glyph is a

title referring to the tlaloc-venus war complex and to the king of Tikal as the carrier of the title. We took the *yitah* to be "sibling" following earlier suggestions by David Stuart and identified the actor as the "sibling" of the Spearthrower-owl person whom we took to be Jaguar-Paw.

Since those studies, Barbara MacLeod has reinterpreted the *itah* glyph as "companion," in a suggestion that is in keeping with a similar one made by Dieter Dutting concerning the function of this title at Chichen Itza. Steve Houston and Hector Escobedo have supported these reassessments by showing that this title stands between an El Cayo *sahal* and the king of Piedras Negras when parentage statements show that they were children of different parents. This latter exception may be explained by a pattern in Maya kinship terms where the children of a set of brothers (that is, what we called first cousins on the father's side) are all called by the same kinship term. In other words brothers and first cousins fall into the same kinship category. However, other attributes of these passages suggest that *itah* is more likely to have been "companion" with both brothers and non-brother's in a special relationship to the king placed in this category.

Freidel and Schele originally identified the actor here as "Smoking-Frog, the brother of Spearthrower-owl." We think the identification of the actor is still good based upon the fact that this passage is a couplet repetition of the one above where Smoking-Frog is clearly named as the actor. However, we now believe it would be better to paraphrase this reference as "the companion of Spearthrower-owl," with the contingency that the spearthrower-owl may be a title of Jaguar-Paw or the name of an object or supernatural being carried into battle. We will return to this idea later.

The third repetition of the event has two verbs. Each has the flat-hand glyph as its main sign. The first has the main sign of the "south" glyph above the hand and a *ba* infixed into it. We don't know how to read it, but we point out that a similar hand-shell combination appears in the Stela 31 passage, although as Tom Jones pointed out several years ago, that example may simply be *yichnal* "in the company of."

The other verb has a *ma* combined with an imix variant. In an example of this combination from the Early Classic lintels of Yaxchilan, this glyph is replaced by *man*, a verb that means to "to buy" and "to pass by," but *manab* means "fantasma, duede, and visions," and as a verb it means "to have visions." As we will see, this last meaning is appropriate. This same glyph shows up on jade plaques said to be from Rio Azul and on Temple 4 Lintel 3 where it occurs as a title of the king in the context of war and the display of captured palanquins.

The actor on the Marcador is Smoking-Frog, but the two glyphs following his name still do not make since to us. The first includes *te* and the second is entirely opaque to us. However the next glyph is the *ku* "owl" in the form that MacLeod has read as *kun*, "seat." In its eye is the tail and rattle of a snake, read by Stuart as *och*, "to enter." We think its read *och kun*, "entered the seat." Federico Fahsen (*Texas Note 35*) has identified the next glyph as a toponym that can be associated directly with Structure A-V at Waxaktun. The
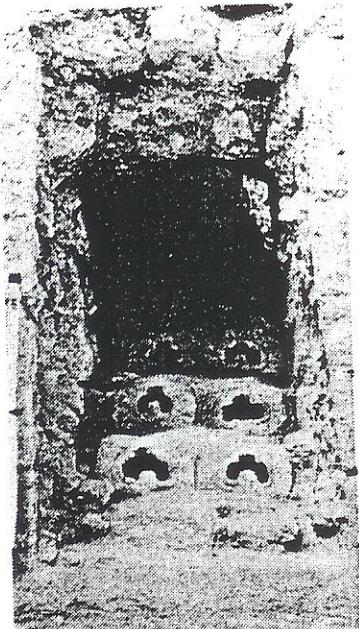
shell signs in the glyph occurred in huge scale all over the building. The toponym is followed by the main sign of the emblem glyph of Waxaktun, *k'u* (god), and *och k'in Waxaklahun U Bah Kan*, the name of the war serpent associated with Tlaloc-venus warfare. If the *man* verb above does indeed record a conjuring event, then we suggest that Smoking-Frog conjured the war snake in Group A at Waxaktun as part of the victory celebration.
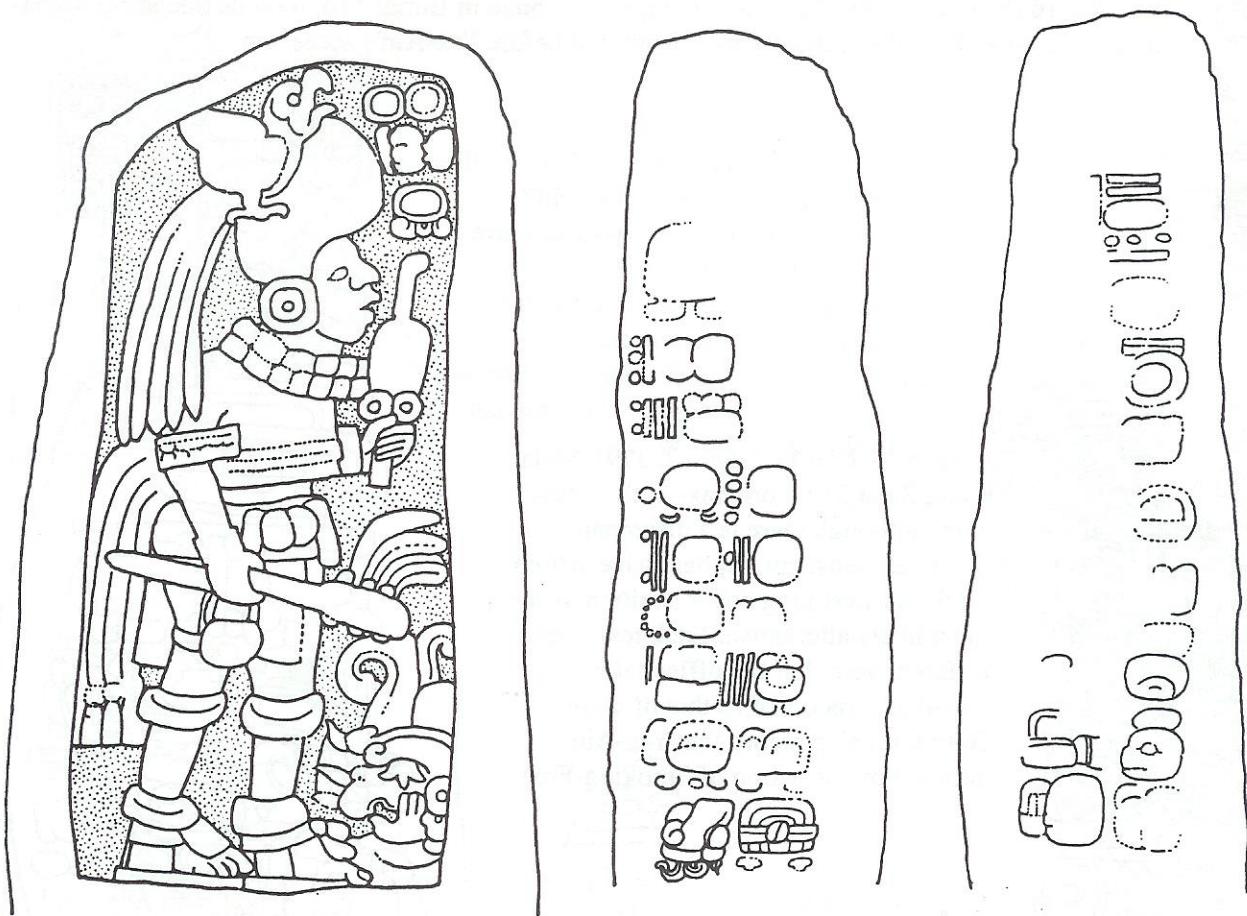
At Waxaktun, the event was also recorded on Stela 5, which was erected in front of Structure B-VIII, after a tomb had been inserted in the substructure, and an entirely new facade and temple built on the old temple. Freidel and Schele, following a suggestion by Maricela Ayala, proposed that the people in the tomb were the wife and children of the defeated Waxaktun king. Juan Pedro Laporte's more recent work on this building resulted in different interpretations of the stratigraphy than those first published by the Carnegie expedition, but we think Maricela's original suggestion that B-VIII holds the royal family is still a viable one.

The text on Stela 5 is very badly eroded, but Schele has been able to check the original monument twice in the last three years. The date is clear although the verb is simply not readable. However, the name of Smoking-Frog and the *mutul* part of the emblem glyph are fully visible on the monument. The only variation is that the "fire-smoke" sign follows the frog head instead of preceding it. However, in these texts recording the 8.17.1.4.12 event, half of the names have the "fire-smoke" after the frog and half before it. We think that the same person is being named and that the order of the components was, therefore, variable without

changing identity. The scene on Stela 5 confirms the war association. The protagonist carries a spearthrower, an obsidian-mounted club, and a bag, and he has the same tail decorations as the portraits of Yax-Ain on the sides of Stela 31. We identify him as Smoking-Frog in the guise of the Tlaloc warrior.

8.17.2.3.16 (Dec. 25, 378): This inscription, from a bone in Burial 116, records the heir-designation of Yax-Ain. It is after Jaguar-Paw's death, but before Yax-Ain's accession.

Tikal **8.17.2.16.17** (Sep. 12, 379): Stela 4 and Stela 31 record Yax-Ain's accession , although there is a discrepancy in the dates. Most epigraphers have settled on the earliest long count position as the most likely alternative. Each text uses a different verb, but the office taken by Yax-Ain is recorded as that of *ahaw*. Both texts also record that Yax-Ain acceded by the action of Smoking-Frog.
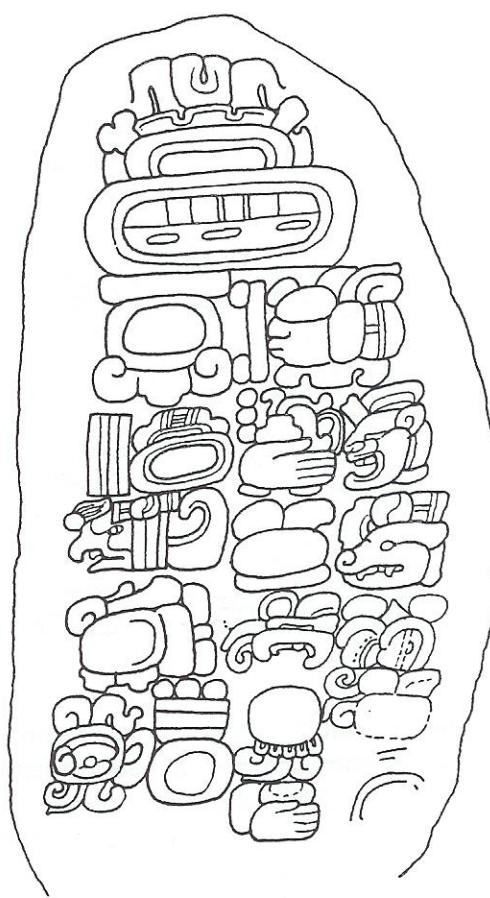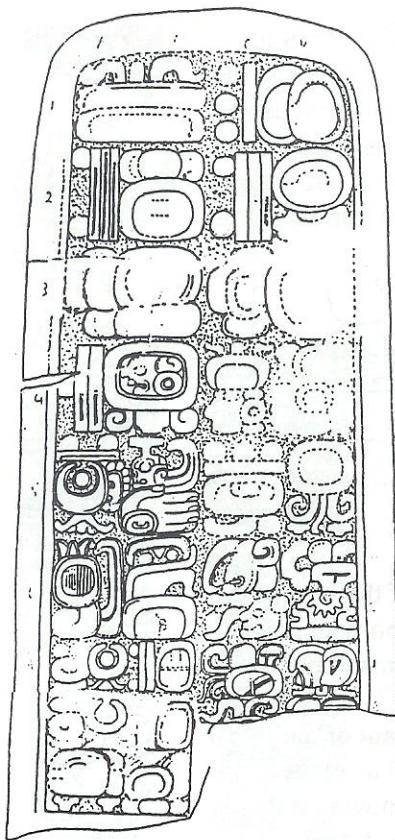
Bejucal 8.17.17.0.0 (Jul. 23, 393): This stela records a period-ending, but the final phrase seems to included a subordination phrase saying that this local lord was the *yahaw* of a lord of Tikal. The name of the Tikal overlord is damaged, but it includes the chak-te' title and has a smoke-fire sign over a missing main sign. We think it named Smoking-Frog. If so, the Tikal's hegemony included Bejucal by 8.17.17.0.0.

Tikal St. 31, 8.17.18.17.2 (Jun. 25, 395): This text records the Waxaktun war event as *kuyte* and links it to the "entering of a mountain" and the dedication of a structure of some sort. The name of the actor has not survived, but we suspect that the event may have involved the reburial of Jaguar-Paw or the taking of relics from his tomb.
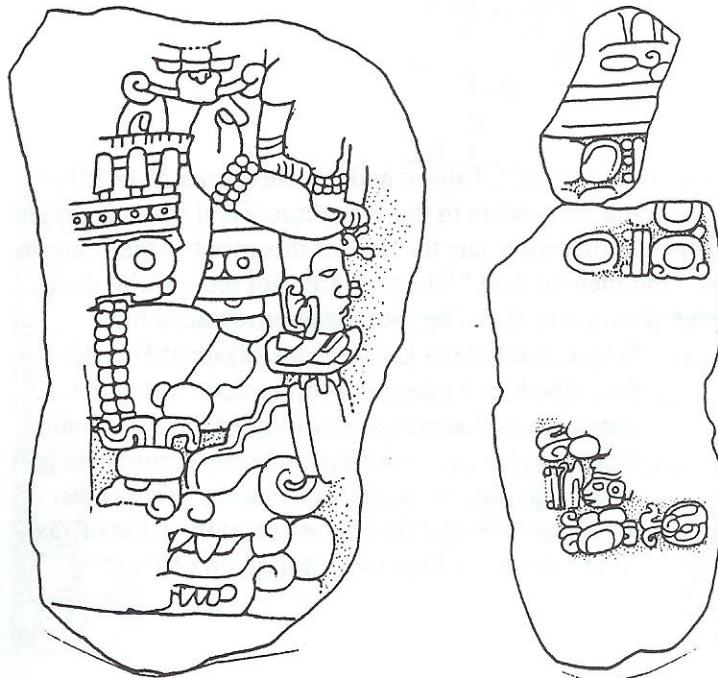
Tikal St. 18, 8.18.0.0.0 (Jul. 7, 396) This text is so badly damaged that the name of the protagonist did not survive, but the text ends with a subordination phrase naming that person as the *yahaw* of Smoking-Frog. We think that person was Yax-Ain.
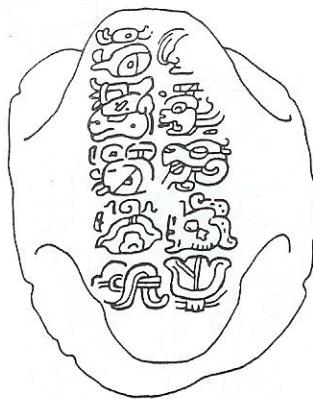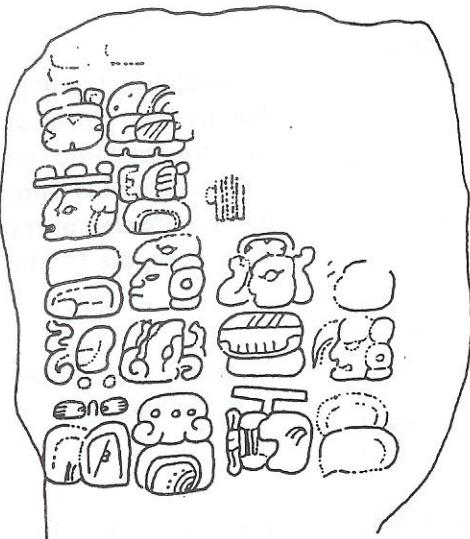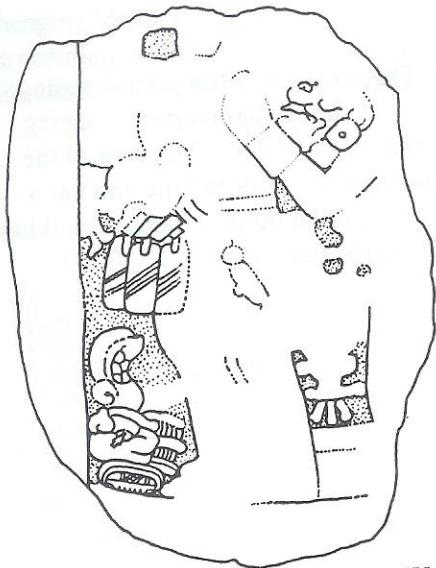
Waxaktun Stela 4 also recorded the end of the 18th k'atun. Smoking-Frog's name includes a glyph with hands holding up a *k'in* sign. This combination seems to occur in the main text of the mural from Structure ?. Another title combining *na, nu, ko*, and the head variant of the T128 *ch'a* sign also occurs on Stela 4 as well as in the glyphs on the front of Stela 5. Lastly the toponym on the figurative side of Stela 4 has a jaguar with an arrow shape near its eye. Something very similar occurs in a name phrase on a looted turtle shell. The name of the protagonist on the turtle shell matches the 22nd ruler of Tikal more than Smoking-Frog, but the same toponym may occur in both texts.
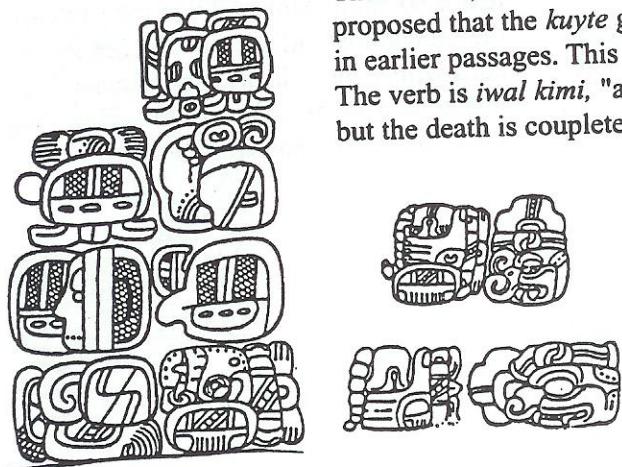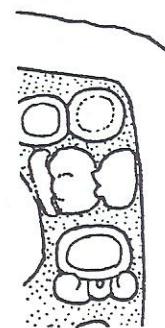
Tikal St. 31, **8.18.6.6.17** (Oct. 21,402): Fahsen and Schele (*Texas Note 13*) proposed that the *kuyte* glyph here refers to the Waxaktun-Tikal battle recorded in earlier passages. This identification sets the date of this event at the lc above. The verb is *iwal kimi*, "and then he died." The text does not record who died, but the death is coupleted with *u tz'akih*, "he succeeded or replaced him."

Schele and Fahsen (*Texas Note 12*) identified the final glyph as a substitute for a title in Yax-Ain's name. We still accept the validity of this substitution, especially because the *k'inich* title is a prominent part of both glyphs. We suggested that the death is that of Smoking-Frog and that the succession is that of Yax-Ain to the rule of the larger kingdom of Tikal.

Tikal St. 31, 8.18.15.11.0 (Nov. 26, 411): This event appears to include the T518 glyph for accession. Although the protagonist is missing, Fahsen and Schele (*Texas Note 13*) suggested that this is the accession to the ahawship of Sian-Kan-K'awil (also known as Stormy-Sky). [Mercury elongated in Sagittarrius; Venus elongated as Evening Star in Capricorn; Jupiter and Saturn in conjunction and in opposition in Taurus--they rose as the sun set and set as the sun rose.]

Tikal Marcador, 8.18.17.14.9 (Jan. 23, 414): These passages record the erection of the effigy battle banner recording the Waxaktun-Tikal war. The name phrase of the protagonist records that he was the *yahaw* or "vassal lord" of Smoking-Frog. According to our chronology, Smoking-Frog should be dead at this time, but at both Yaxchilan and Copan, we have examples of people recording their relationship and subordination to dead kings.
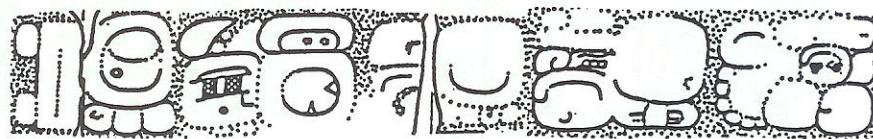
El Zapote St. 1, 8.18.19.15.4 (Jan. 28, 416): This unknown event took place ten years after a stela erection. The verb is unclear, but the last glyph resembles a title in Smoking-Frog's name on Waxaktun Stelae 4 and 5.
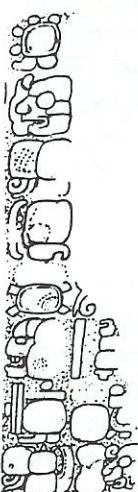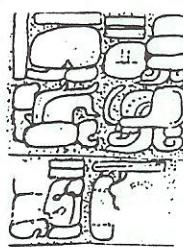
El Zapote St. 1, 8.19.1.11.9 (Nov. 3, 417) ??: This text is badly eroded, so that the dating is not secure. However, it is an event that concerned a spearthrower-shield person. El Zapote Stela 3 has the main sign of the Tikal emblem glyph as a toponym in the main scene. Schele, Fahsen, and Grube (*Texas Note 34*) used these data to suggest that Tikal conquered El Zapote on these dates or otherwise brought El Zapote into the Tikal hegemony.

    The text to the right records the erection of Stela 1 on 8.19.10.0.0.
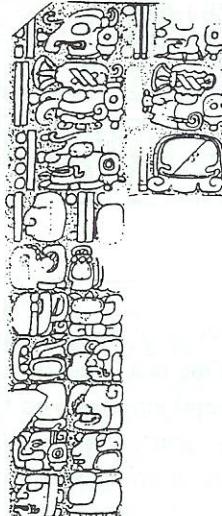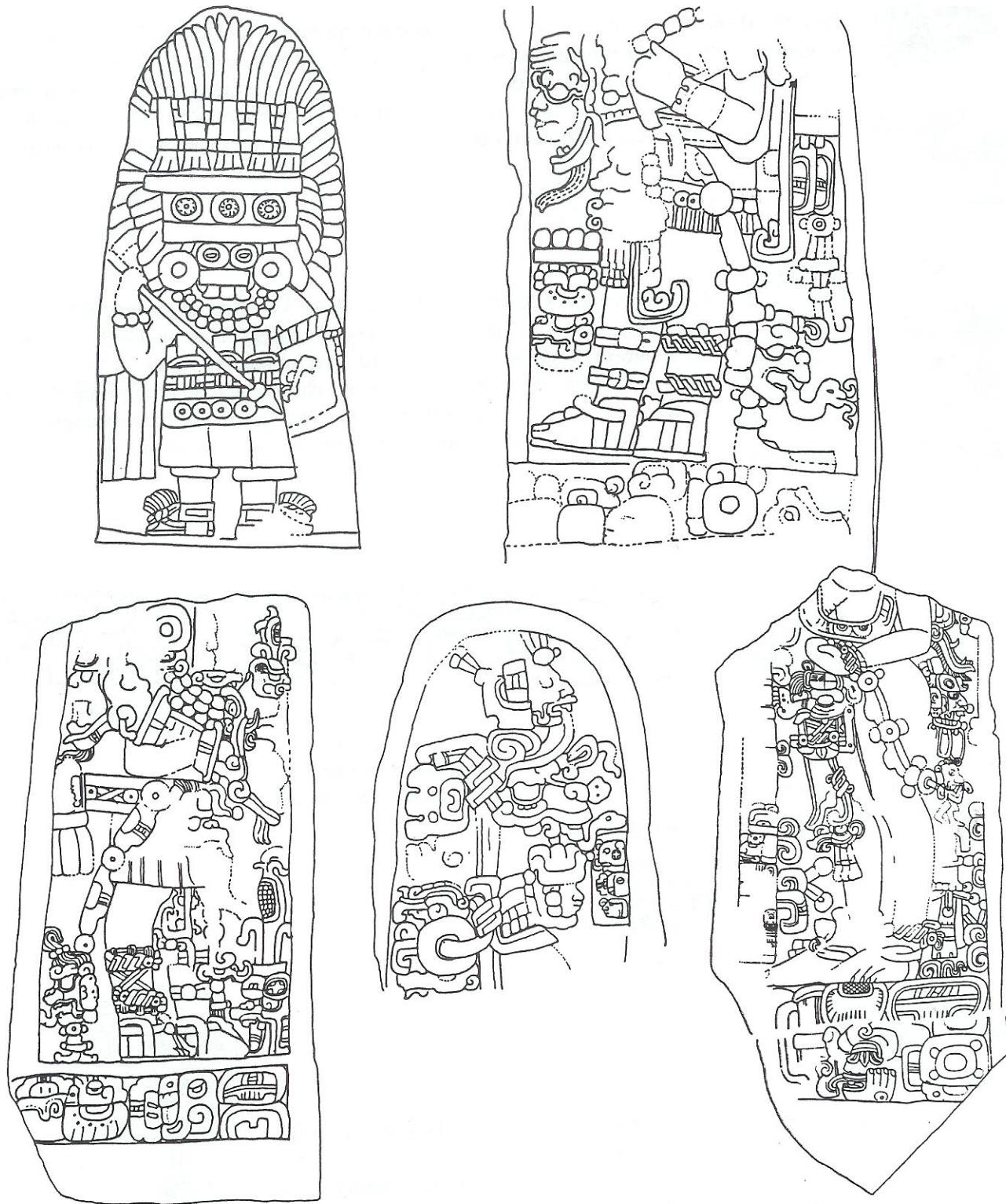
Yaxha: None of these monuments can be dated securely, but they belong stylistically to this early time period. One is a detailed example of the Tlaloc complex while the other three show traditional Maya imagery with special emphasis on the costume of Chak, who is also prominent at El Zapote. The emblem glyph of Yaxha is clearly visible. We cannot recover much of Yaxha's history from these monuments, but we can say that a strong polity was in place at Yaxha by this time. The stela in the lower right is from Uxbenka in southern Belize. It cannot be dated, but the figure has Jaguar-Paw's name on his belt.
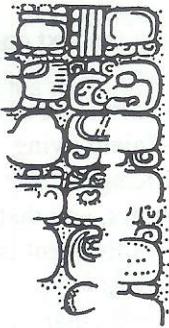
El Zapote St 5, **8.19.4.10.10** (Sep. 20, 420): Schele, Fahsen, and Grube (Texas Note 34) identified this phrase as a reference to the birth of Yax-Ain from Tikal

Tikal St. 31, **8.19.10.0.0** (Jan. 31, 426): This phrase records the accession of Sian-Kan-K'awil to the chakte-ship of Tikal. This event appears to have unified the office ruling the capitol and that ruling the larger kingdom into a single person. All subsequent accession phrases of the high king used the *chaktelel* office rather than that of *ahawlel*.

Tikal St. 31, El Zapote 5, and Looted Celt (Rio Azul?), **9.0.0.0.0** (Dec. 10, 435): These three period ending texts give us some tentative information on the alliances in place at the time. At Tikal, Sian-Kan-K'awil recorded that he ended the bak'tun and while doing so, he was the companion of the Reclining Jaguar and Spearthrower-Shield. This usage suggests that the spearthrower-shield glyph can refer to a supernatural being or object.

El Zapote Stela 5 is too badly damaged to identify the protagonist with security, but there are the remnants of a *ch'ul* glyph and the birth frog that Stuart has identified as a form of *sian*. Since a name on the other side has the same *sian* glyph in a sequence that looks like Sian-Kan-K'awil, we suspect that El Zapote recorded the Tikal king as the ender of the bak'tun.

The looted celt records a protagonist who has not been identified in any monumental inscriptions, but the grapevine has it that these celts are from Rio Azul. For our purposes, the critical passage is the final one- -*yahaw kuytenal kuchan*. *Kuyte* is the phrase at Tikal used to refer to the Waxaktun war; *kuy* is owl and soldier. We suggest that this final subordination phrase may refer to Tikal's ruler.
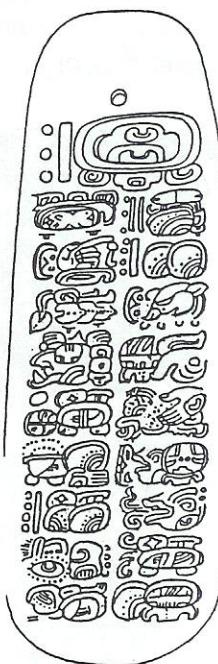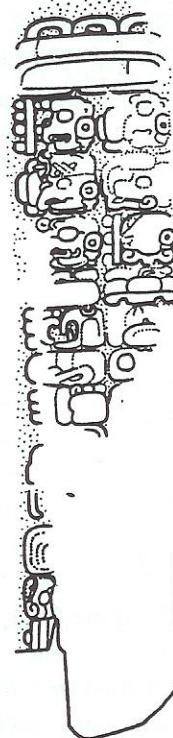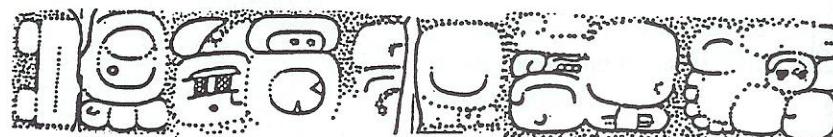
8.18.19.8.1 (Sept. 7, 415) Seibal HS: This event is also a back reference from a Late Classic Monument. The nature of this event is not known, but the verb has some resemblances to the *pitzil* "ballgame" glyph. The agent may be one of the early lords of Seibal, perhaps the founder of the local dynasty.

Tikal St.31, **9.0.3.9.18** (Jun. 10, 439): This event is the last one surviving in the text on this monument. Later Hasaw-Kan-K'awil (Ruler A) held a bloodletting event on its 13th k'atun anniversary. The event is the *och bih* expression David Stuart identified as a metaphor for "to die." Thus, the event has a person named Spearthrower-Shield dying on this date, but we do not know who he is. Schele and Freidel (Forest of Kings) made an argument that the Spearthower-Shield glyph was a title carried by warriors, and that this event involved the taking of that title by Sian-Kan-K'awil. However, if this event is death, then the spearthrower title cannot refer to him because we know he was alive to end the lahuntun at 9.0.10.0.0. The texts on the sides of Stela 31 record clearly that Yax-Ain was the child of a person named Spearthrower-Shield, while the rear records that Sian-Kan-K'awil was Yax-Ain's child. In the *Forest of Kings,* we thought the best solution to the identification was that the spearthower-shield title referred to Jaguar-Paw. That identification is less secure now. However, the numbered succession titles that have been worked out for these early kings have Jaguar-Paw as the ninth king and Sian-Kan-K'awil as the 11th ruler. Presumably this list refers to those who ruled the capitol. This list does not include either Smoking-Frog or Spearthrower-shield.
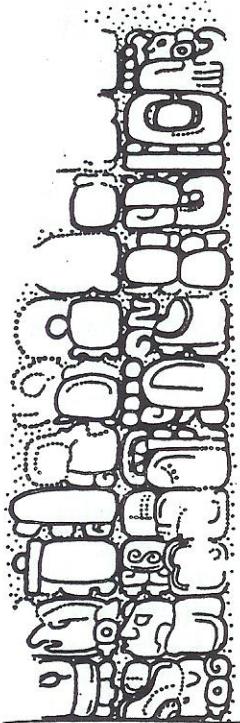
El Zapote St. 5, **9.0.4.0.0** (Nov. 19, 439): This records the dedication of the stela on 9.0.0.0.0. The *tz'apah* verb is clear and we confirmed on the original stone that it is followed by *u lakam tun*. We think that the names of the protagonist are probably Sian-Kan-K'awil written with the birth frog in place of the split-sky glyph that is usually used.

The text continues with a dn of 4.0.0 to reach the dedication date of the monument. This phrase includes the information that this happened after the end of 9 pi and that it happened at Wak Kan Muyal Witz. This location is also mentioned at Rio Azul with a burial at either 9.0.14.8.13 or 9.3.7.3.13. Wak-Kan (or Wak-Chan) is a supernatural location associated with Creation so that there are many different Wak-Kans recorded in the inscriptions. We suppose this is the location of the bak'tun ending either at Tikal or El Zapote.
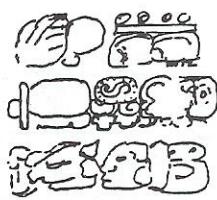
Sian-Kan-K'awil dedicated St. 31 on **9.0.10.0.0**. Clemency Coggins was right in her 1975 dissertation when she identified Burial 48 as his tomb, and suggested that the date on its walls, 9.1.1.10.10 (Mar. 9, 457) as his death or burial date.
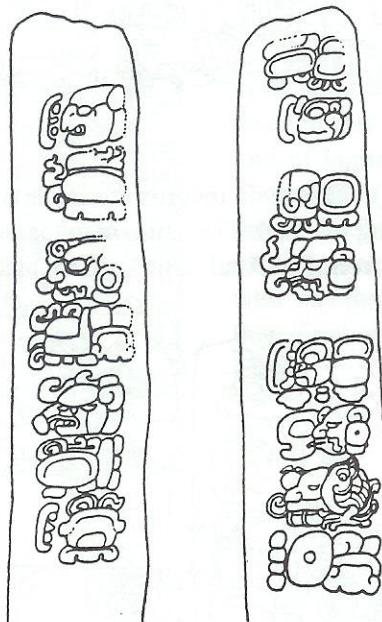
The next king of Tikal was called K'an-Boar by Coggins. She was right in identifying the head of the animal as a peccary. The three leaf shapes in the eye appear in a peccary head used to spell the *ak* in the name of the god Chak. *Ak* is a word for peccary. We think his name was K'an-Ak. He is associated with the date 9.2.0.0.0, but on this undated monument (Stela 13), we have his parentage statement. In earlier studies, no one had been able to associate the father's name with any known Tikal king. That has changed since David Stuart identified the birth frog with Sian-Kan-K'awil's name. In examining the original monument in 1994, Schele realized that the father is Sian-Kan-K'awil spelled with the birth frog.
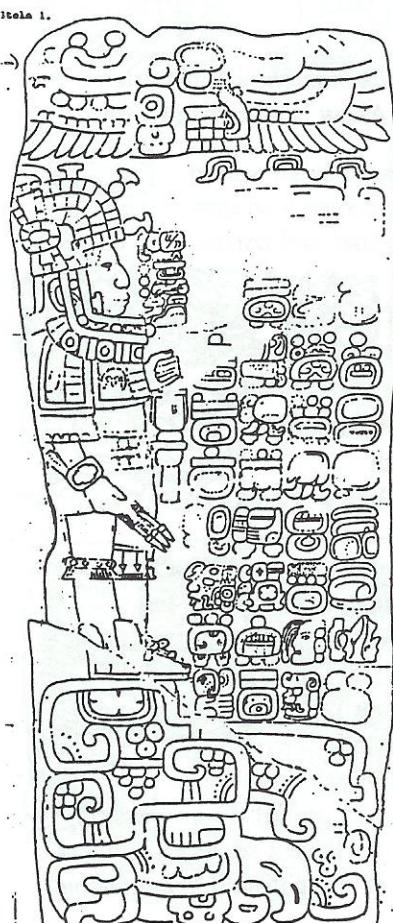
Stela 1.

Tres Islas, **9.2.0.0.0** (May 14, 475): These two monuments depict rulers at Tres Islas dressed in the Tlaloc war costume and carrying weapons. Peter Mathews has observed that Stela 2 uses the Machaquila eg and suggested that Tres Islas was the capitol of that polity at this early time. Stela 1 includes the date 8.18.18.15.0 (Jan. 29, 415) and an event and lord whose name includes Yak Ahaw in his name. This title relates to other titles known at Cancuen. A second date of 8.19.0.0.0 also occurs as an anchor date. Stela 2 has this same title and both stelae have the same name as the protagonist. The earlier dates on Stela 1 suggest that this region was active by 8.18.18.15.0.

[Venus was at 9° from the sun so that it is very near the heliacal rising of the Eveningstar.]
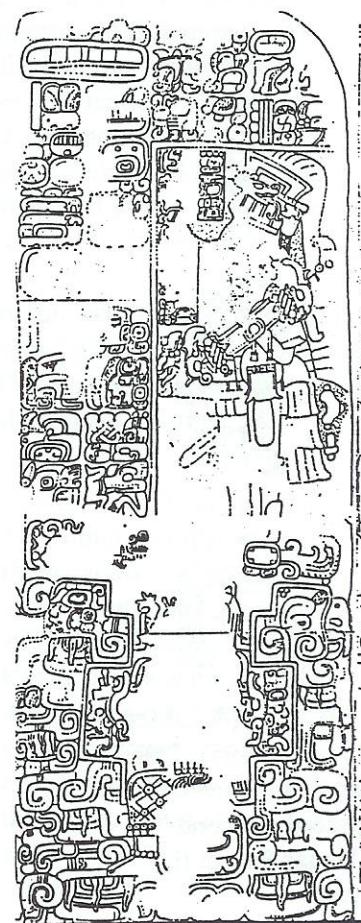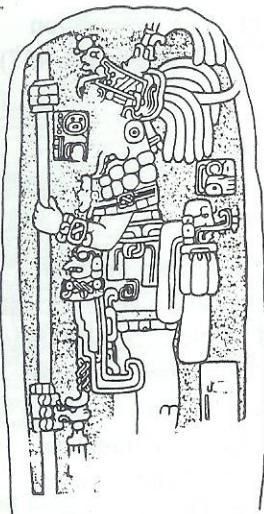
Naranjo St. 41, **9.2.0.0.0** (May 14, 475): This earlier monument only records a period ending, but it establishes that the Naranjo polity existed and was operating at this date.

Earflares
Tikal St. 3

Tikal St. 3, **9.2.13.0.0** (Mar. 6, 488): This stela records the name of a son of K'an-Ak as the reigning king of Tikal. The same name is on a pair of looted earflares said to be from Rio Azul. One earflare also has the name of a Rio Azul lord that shows up on Copan Stela 20 at about the same date. Finally, the second earflare has the title *yahaw* of the west *chakte* followed by the owl and shield glyph. We suggest this may refer to the Tikal ruler, but also note that the final glyph is *chatan winik mas ahaw*. This title appears on several pots, and the Mas Ahaw is associated with dwarves and with lords of Calakmul.

Copan Stela 20

Tikal St. 7, **9.3.0.0.0** (Jan. 28, 495): This and two other stelae record a second Jaguar-Paw at this date.
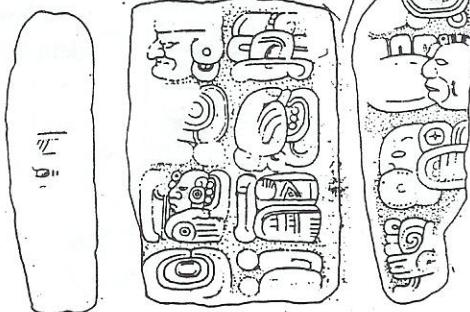
Tikal St. 9, **9.3.2.0.0**, (Jan. 18, 497): The upper text is from a looted pot. It records the 13th successor who followed K'an-Ak. The name has an animal (lizard??) head with a *te* sign in the mouth. This same combination appears on Stela 9. Moreover, this combination reappears in the name of the 22nd successor. The problem here is that the same pot names Jaguar-Paw as the 14th successor, while the dates of these two monuments are reversed in chronological order. There are still problems with this part of the succession, although Nikolai and I now believe we have a series of brothers who succeeded K'an-Ak. [Venus is at elongation in Sagattarrius]
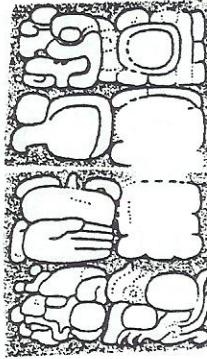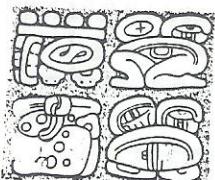
Yaxchilan EC lintels 9.3.13.12.19 (Aug. 7, 508): The passage from Lintel 37 records the accession of the 9th ruler of Yaxchilan, Knot-eye-Jaguar. As Peter Mathews first noted, the text in the following passage records the visits of two lords who were the vassals of the contemporary king of Bonampak'. It continues to the first of two dates in this lintel series. On that date, a vassal lord of Jaguar-Paw II of Tikal visited Yaxchilan. Three stelae at Tikal record Jaguar-Paw with the date 9.3.0.0.0 and Stela 7 names him as the son of K'an-Ak. These visitor passages may simply record interactions, but they may also signal who was the friend of whom during Yaxchilan's history. If this is correct, then Knot-eye-Jaguar had special relationships with Bonampak' and Tikal.
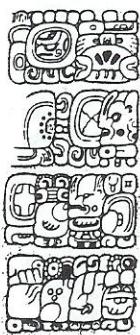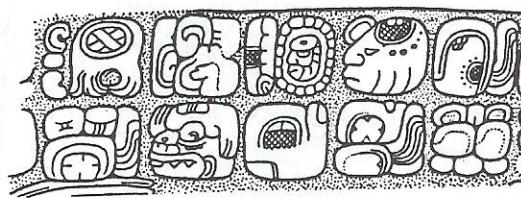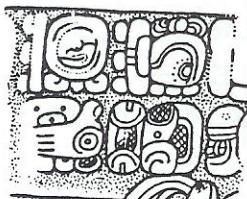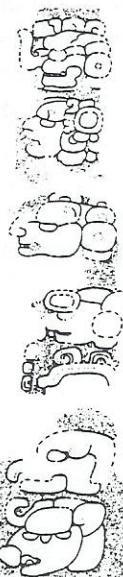
PN Lintel 2, 9.3.16.0.5 (Nov. 11, 510): This passage records the taking of the *ko'hal* helmet that is part of the Tlaloc-Venus war complex. Interestingly, the name of this lord of Piedras Negras is exactly the same as his contemporary at Bonampak'. We doubt they are the same person however. His name is followed by *yichnal* and another name with the phrase *uk'aba tun Ochk'in Chakte',* "is the name of the stone west Chakte'." We think this may be a patron god, and perhaps even one of the palanquin gods used in processions and carried into battle. The particular helmet taken in this ritual is a war headdress.

Yaxchilan HS 3:1, 9.3.18.1.15 (Nov. 30, 512): In his dissertation on Yaxchilan, Peter Mathews shifted this date a calendar round earlier than most epigraphers had placed it. We think his arguments were good ones and follow his lead in this matter. This text records the capture of a Bonampak' (Lacanja) lord by the Knot-eye-Jaguar who acceded above in Lintel 37.

PN Lintel 2, 9.3.19.12.12, 9.4.3.0.17 or 9.4.3.10.1 (Jun. 30, 514; Oct. 17, 517; or Apr. 19, 518): This lintel records three events surrounding the end of the fourth k'atun. There is no way to know which of these three events appears in the scene, but it is an image of capture. The first

captive in the left row is Knot-Eye-Jaguar of Yaxchilan. The texts from Yaxchilan suggest Knot-Eye-Jaguar was associated with Jaguar-Paw of Tikal. Piedras Negras appears to have been an ally of Calakmul. The period-ending phrase (above the prisoners) ends with a name and *yahawte ochk'in Chakte'*. The Piedras Negras ruler is thus acknowledging his subordination, but without an emblem glyph we cannot tell if this chakte' is from Calakmul or not. [Oct. 17, 517 had Venus at its maximum elongation as Morningstar in Virgo; April 19, 518 had Venus at 11° just before the last appearance of the Morningstar.]

9.4.0.0.0 (Oct. 16, 514); CRC St. 13: This K'atun ending was celebrated at Caracol with the erection of Stela 13. The name of the current king is not known, although the text does give his parentage. The text also mentions the *ox witz* Caracol toponym. In the text below, the same k'atun is recorded at Calakmul. Both sites were erecting monuments by this k'atun ending.
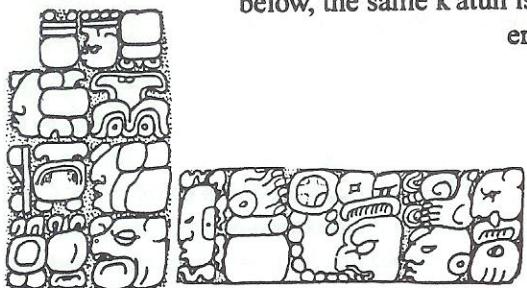
La Corona Panel 6

9.4.5.6.16 (Feb. 3, 520); El Peru Altar 1 The nature of this event is not known. This is the earliest of the events recorded on the El Peru Altar. It involves a female whose name includes the glyph *na ek'* "Lady Star." She is the *y-atan* "wife of" a king of Calakmul. This is the first king of Calakmul whose name is known. Finally, the sentence ends with a *y-al* "son of mother" glyph, a female prefix, and the glyph *bakab*. It seems that "Lady Bakab" is the mother of the Calakmul king rather than the mother of his wife, because *y-al* qualifies mother-son and not mother-daughter relations. The entire passage confirms that El Peru had close relations with Calakmul from at least the Early Classic.
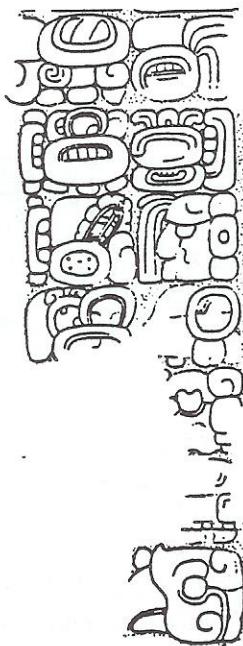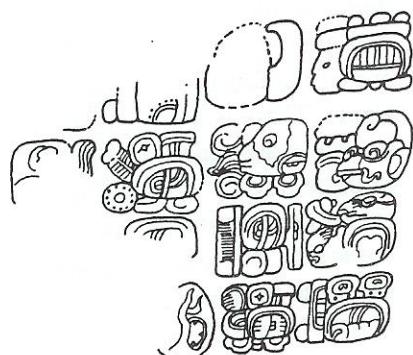
Calakmul St. 43
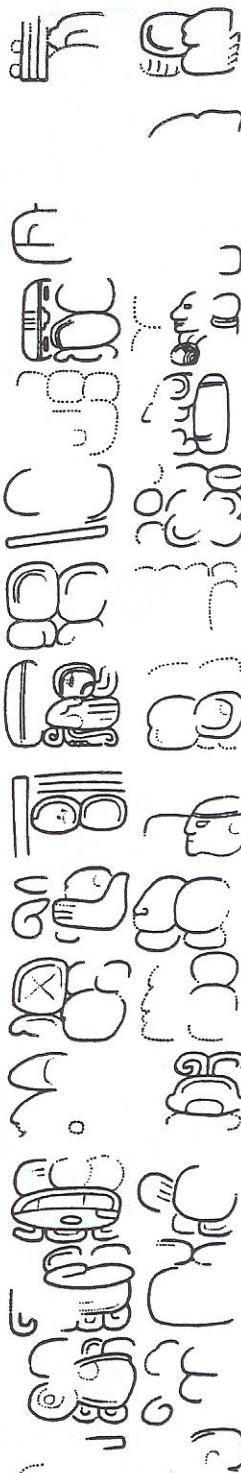
Tikal St. 10 **9.4.13.0.0** (Aug. 9, 527): The date of this sequence of events is not secure, but the crucial event is. The text reads *ch'akah u kun Mas Ahaw. Ch'akah* means "to decapitate" and "to cut and chop." It is used at Palenque and elsewhere as an action against a town or location. Here, the location is the "seat" of the Mas Ahaw. This title occurs with lords from Rio Azul and Calakmul. There is no way to tell which is intended here.

9.4.10.0.0 (Aug. 24, 524); Nim Li Punit Stela 15   The text starts with an abbreviated date that records 12 Ahaw (8 Mol) (9).4.10.(0.0). This day is exactly 10 K'atuns before the 9.14.10.0.0 date of the Initial Series. The text refers to the erection of a Stela by an individual called *chak u nan*. The *u wak tz'akab* glyph following his name is interpreted by Barbara, Phil and Nikolai as a reference to the sixth stela that is erected, not as a succession in rulership. This interpretation is supported by the *tun* and *u tz'ap* glyphs that follow. The last glyphs are names and titles, perhaps those of the first individual who set up stelae at Nim Li Punit.
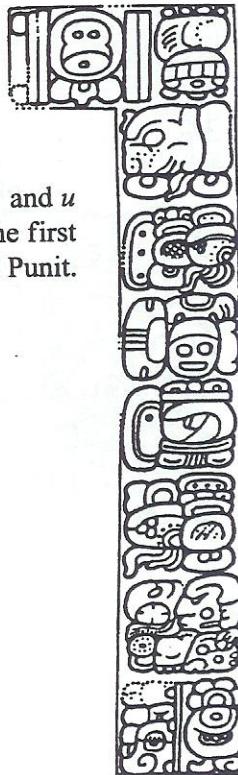
9.4.16.13.3 (April 13, 531), CRC St. 15   The glyphs on this slate monument are badly eroded, but the first glyph preserved is the name of K'an I. Houston and others have taken this to be his accession date.

9.5.0.0.0, (July 13, 534), CRC St. 16   Stela 16 was erected at the same locus as Stela 13. Stela 16 was commissioned by K'an I, probably in order to honor his father. The text mentions Lord K'an I, as well as another personage (a sublord?) who was somehow involved in the erection of Stela 16. Furthermore, Stela 16 talks about the parentage of K'an I. The name of K'an I's mother was written in the now mostly effaced glyphs on the bottom of the monument (A19-B19). The name of the father might have been in the broken passage of the right double column. If this passage had been preserved, it would have revealed for us the nominals of the Stela 13 king if the assumption that he was the father of K'an I proves to be correct. The text moves to a dedication ritual that may be a bloodletter. The actor of this dedication is also an unknown person, whose name is identical to the successor of K'an II. This may be an earlier namesake. This person was in a *y-itah* relation to a second person from a site with the same emblem glyph as Naj Tunich. We will call it Flint(?) Mountain. Here, the person from Flint(?) Mountain is immediately named *u tz'ak*, "the successor of" *tz'at winik k'inich ??? balam u kun balam-nan*, who Nikolai identified as the seventh king in the succession of Copan, "Waterlily Jaguar." The political content of this relation is not clear, but Linda, Federico and Nikolai, who, in summer '93, studied Copan's connections to Tikal, think the Copan ruler was replaced by the Flint(?) Mountain lord as the companion of the sublord of Caracol. The name of this secondary lord was used by a later king, and thus may mark this lord as a member of the royal family. This replacement of the Copan lord may have resulted from regular office changes or from shifting allegiances between kingdoms allied to Tikal. [Venus as Eveningstar at 9° elongation.]
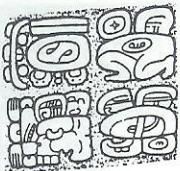
Yaxchilan Lintel 35 **9.5.2.10.6** (Jan. 14, 537): This passage records the accession of the 10th ruler and a visit by a vassal lord of the king of Calakmul on the date above. If the visitors in these Early Classic lintels do signal some kind of alliance or special relationship between sites, then Yaxchilan may have switched alliances after the capture of Knot-eye-Jaguar. [Venus as Morningstar at maximum elongation in Sagittarius.]
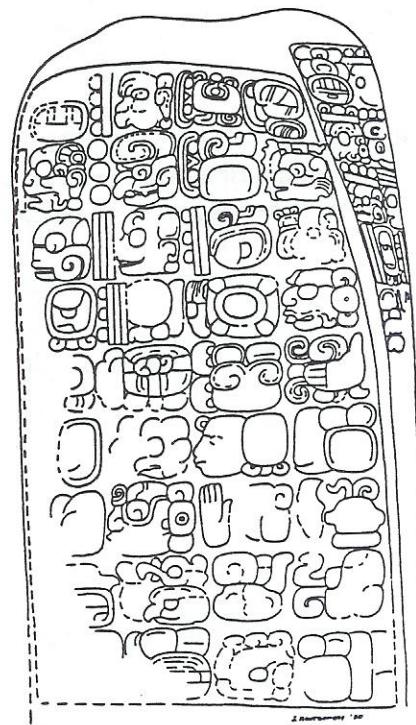
Tikal St. 17, **9.5.3.9.15** (Dec. 29, 537): The verb in this text has not survived and the names are also badly eroded. This king is known as Double-Bird and he was the 21st ruler in the succession of Tikal. Critical to us, is the inclusion in his name of a reference to the Tok'-pakal of a lord from Flint(?) Mountain. Schele (in the 1990 workshop) pointed out that this eg is on Caracol Stela 16. Simon Martin and others have pointed out that it is also found in Nah Tunich cave and perhaps also at Xultun. This is the earliest evidence of conflict between Caracol and Tikal.

Naranjo St. 25 **9.5.12.0.4** (May 5, 546): Peter Mathews identified this as the most likely accession date for the first known ruler of Naranjo. This ruler, Ah Wos, and his descendants recorded the date and its k'atun anniversaries on several monuments. If this event is accession, then this Naranjo king acceded under the auspices of the same Calakmul king who is mentioned on Yaxchilan Lintel 35.

9.5.19.1.2 (April 16, 553), CRC St. 14; CRC St. 6; CRC Altar 21
At the end of the Early Classic, Caracol, acquired a new king under
the aegis of Tikal. Altar 21 and Stela 6 at the site record the accession
of Yahaw Te K'inich *u kahi k'ul mutul ahaw*, "by the action of the
divine Tikal king." Both texts are terribly eroded, however, the Tikal
emblem is clearly visible as the last glyph in both accession phrases.
There is also a nominal glyph of the Tikal king. This should be a name
for the 21st king of Tikal who erected Stela 17. The accession phrase
on Stela 14 is heavily eroded. Here it seems that no reference to Tikal
is made.

9.6.0.0.0 (March 20, 554), CRC St. 14: This K'atun ending is celebrated
at Caracol by Yahaw Te K'inich and involves some ritual activity with a
triad of gods. [Venus as Eveningstar at 45.4° elongation in Taurus.]
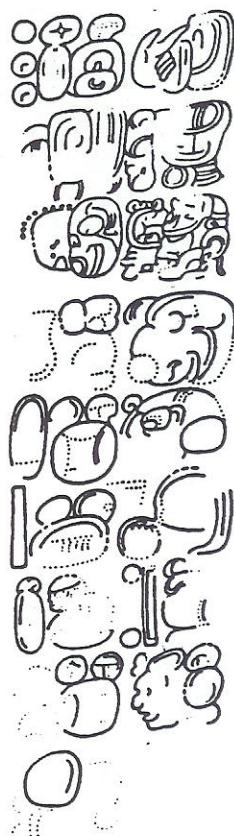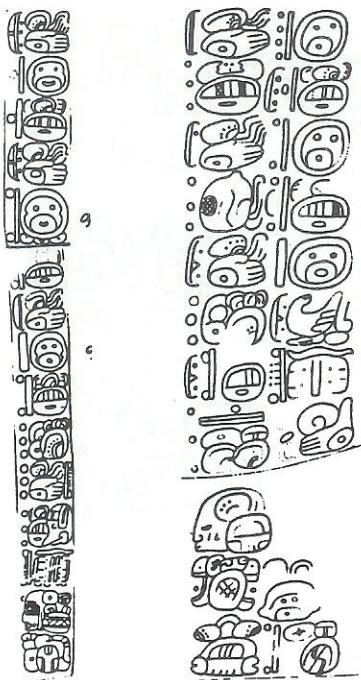
Naranjo: These two passages from Stela 25 and Altar 1 record the ends of the sixth, seventh, and eighth k'atun by Ah Wos.

11 (k'in), 1 winalhi, 2 hab
D.N. 2.1.11 since 9.6.0.0.0

6 Chuwen 19 Pop (9.6.2.1.11)

ch'ak k'ul k'an
decapitation of

tu mak u kahi
Caracol (person) by

??
nominal

k'ul mutul ahaw
Divine King of Tikal

9.6.2.1.11 (April 9, 556), CRC Alt 21
The next major event in Caracol's history is an "Axe War" attack by Tikal against its former associate. Jorge Orejel and Nikolai have deciphered the axe war verb as *ch'ak*. *Ch'ak* means both "to decapitate" and "to govern, rip, tear," "rule a government or town, set tribute" in Colonial Tzotzil. In regard to the meanings of the verb in Tzotzil one wonders whether Caracol was ruled by Tikal and was forced to pay tribute. The other interpretation is that an unnamed noble from Caracol was decapitated by Tikal.

Tikal St. 17 **9.6.3.9.15** (Sep. 15, 557) The verb has not survived on this side of the monument, but this is the last date before Caracol's victory over Tikal.

9.6.8.4.2 (April 29, 562), CRC Alt. 21 The main event recorded on Caracol Altar 21 is a "Star War," this time recording a defeat for Tikal at the hands of a now illegible opponent. This is the first "Star War" recorded in the Maya Lowlands. This event coincides with the beginning of the so-called "Hiatus" at Tikal, though any true linkage between the two has yet to be established. For most of us who have studied the text on Altar 21 it was clear

u tz'akah buluk (k'in), ka winalhi
it follows D.N. 6.2.11 (after ch'ak event)

wak habiy wuk ik'
on 7 Ik'

0 Sip, Star-War against
(9.6.8.4.2)

k'ul mutul ahaw
Divine King of Tikal

u kahi
by

nominal

emblem glyph (Calakmul??)

that the agent of this Star War event, whose name is introduced by the *u kahi* agency, was somebody from Caracol, although the nominal glyphs are heavily eroded. In 1992 Simon and Nikolai both came to the same conclusion. The outlines of the two blocks where we expect the name of the agent do not match those of any known Caracol king, nor does the last glyph show any resemblance to the Caracol emblem glyph. A few glyphs later in the text, still associated with the same date, we do find the Calakmul emblem. Simon and Nikolai both came to the conclusion that the agent of the Star War against Tikal was a person from Calakmul and that the second glyph after the agency expression is the
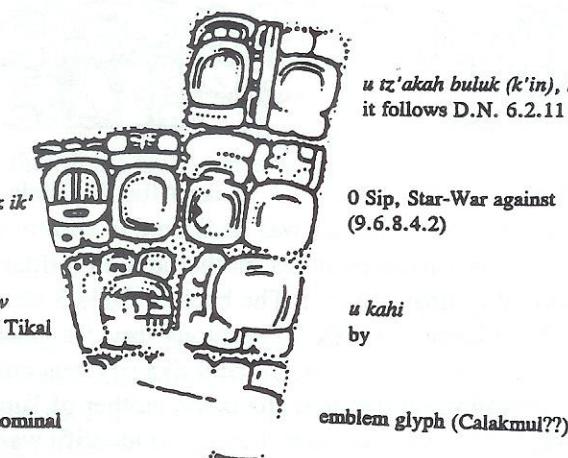
yah
wounded

Tikal St 31

Calakmul emblem

Calakmul emblem. In this particular passage the stone is so eroded that we will perhaps never be able to prove this idea, however, the internal logic of the Altar text - especially in connection with the *ch'ak* event by Tikal against Caracol mentioned before, strongly suggests that Caracol changed from one political sphere to the other. The following glyphs are still part of the long passage describing the Star War against Tikal. It includes the *y-ah* "his pain" expression which is also found on Tikal Stela 31 in association with the 8.17.1.4.12 war against Waxaktun.
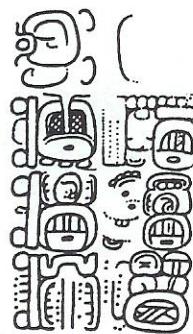
Naranjo, St. 25 **9.6.12.0.4** (Jan. 20, 566): Here is the record of the first K'atun anniversary, but unfortunately the scribes did not record the nature of the base event.
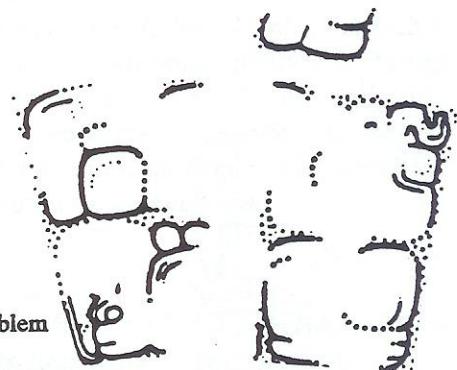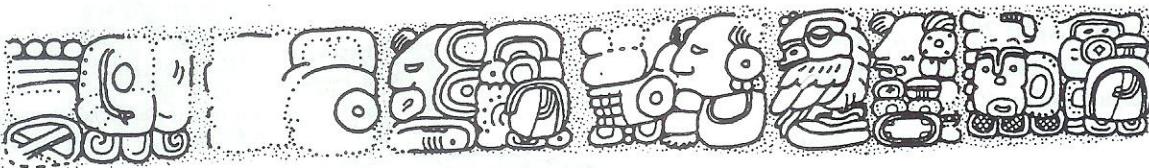
9.6.12.4.16 (April 22, 566), CRC St. 3   Like Altar 21, Stela 3 at Caracol was erected by Tum Ol K'inich, or K'an II. While Altar 21 was dedicated to commemorate important events in the life of Tum Ol K'inich's father, Stela 3 focuses on his mother and on military campaigns made by the new king in connection with Calakmul against Naranjo. The back of Stela 3 starts with the birth of Lady Batz' Ek' at 9.6.12.4.16. Who is Lady Batz' Ek'? For a long time we discussed whether she was even a female or not, and her relation to other members of the Caracol dynasty was mostly unknown. Carl Beetz, Linton Satterthwaite, and Stephen Houston suggested that she is the mother of Tum Ol K'inich but could not really prove this because the only parentage statement they could identify was hidden behind obscure undeciphered glyphs on Lintel 1. Here again Simon contributed the linking evidence. He restudied the photos of the Naranjo Hieroglyphic Stairway and found that Step III contains the parentage written in a more orthodox spelling. Thus, Lady Batz' Ek' is the mother of Tum Ol K'inich and the wife of Yahaw Te K'inich. Here the importance lies in the fact that she carries the title *yax ahaw*. This title only occurs twice in this form in the Maya area: on Calakmul Stela 51 and on a Stela from Morales where it is found in a passage that deals with Calakmul. To Simon and me this suggests that Lady Batz' Ek' is somehow related to the Calakmul dynasty. [Last appearance of Venus as Morningstar in Aries.]
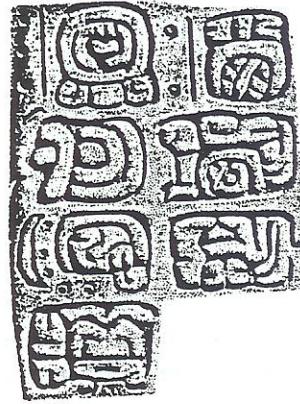
9.6.15.6.4 (May 4, 569) Altun Ha Jade Pendant: Altun Ha' is on the easternmost end of the Southern Lowlands and somehow differs from other Lowland Centers. Though Altun Ha is a large site, its kings chose not to erect stelae. Still there is evidence of military activities. We do not know, though, whether they refer to activities by the local lords or someone else. The event described here is a *ch'ak* event against an unidentified opponent *u kahi k'inich chak paxal*.

9.6.18.2.19 (Feb. 13, 572), CRC Alt. 21: This may be the dedication of some kind of structure.
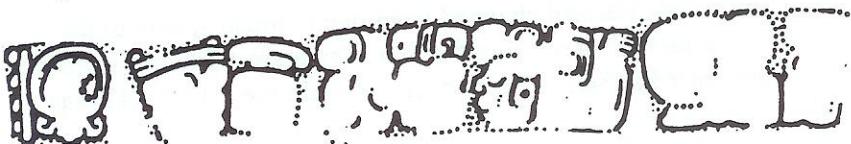
9.6.18.12.0 (August 12, 572), CRC St. 3: The verb is eroded, but the name of a lord of Calakmul and his emblem glyph are preserved. This is evidence that the incidence of the Star War against Tikal marks a change in Caracol's political associations. The name of this Caracol king is the same as that found in a war passage on the Palenque HS.
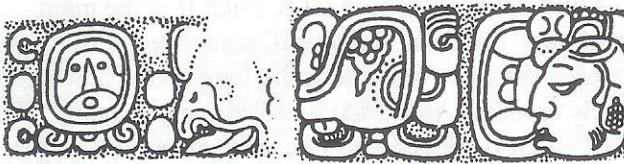
9.7.0.1.0 (Dec. 25, 573), Chinik'iha Throne: This may be the earliest mention of Tonina in the inscriptions. The glyph after the *chukhiy* capture glyph is *po-a-nal*. The main sign of the Tonina emblem reads *po*. The male agentive *ah* and the locative suffix *nal* (here written with the head of the Maize God) are attached to the *po* sign, thus the person being captured is "he from the *po*-place."

Naranjo Alt.1. **9.7.3.3.17** (Feb. 4, 577): This text records the dedication of a house by Ah Wos. It mentions his descent from a supernatural that plays an important role at Naranjo and Palenque and he calls himself the successor of the Jaguar Paddler. The last title is *Sac Tz'at,* "White Sage."
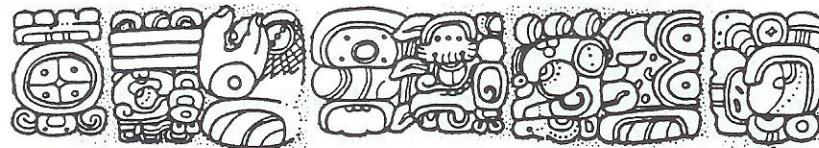
9.7.10.16.8 (Sept. 6, 584), CRC St. 3: Stela 3 not only mentions the birth of Lady Batz' Ek', but also her arrival (*huli*) at the *ox witz* place, the Caracol toponym. She is the new bride for *Yahaw Te K'inich.* The "arrival" of foreign brides is one of the techniques by which polities in the political sphere of Calakmul are tied to each other. A child from this marriage later became the Caracol ruler Tum Ol K'inich.

9.7.11.2.17 (Dec. 4, 584), Altun Ha Jade Pendant: The second event recorded on the back of the Altun Ha Jade Pendant is the accession of a new king. The accession phrase is accompanied by an explanation of his parentage.
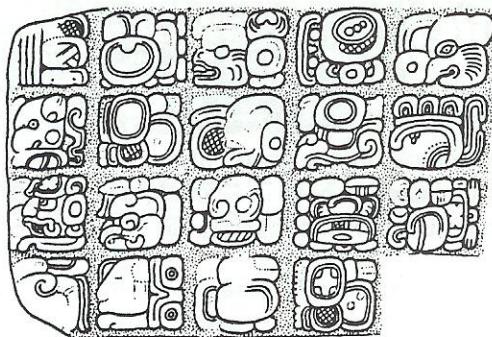
Naranjo, Panel 1, **9.7.14.10.8** (Apr. 18, 588): This records the birth of Lord of Caracol.

9.7.14.10.8 (April 18, 588), CRC St. 3 and Altar 21: The birth of K'an II/Tum Ol K'inich II is the main event on Altar 21 and the first event, associated with the Initial Series date. Unfortunately, the long text is now almost completely eroded. The birth is also written on Stela 3. Here, Tum Ol K'inich II carries his pre-accession name *sak ba witz* "white gopher mountain" or "white first hill."
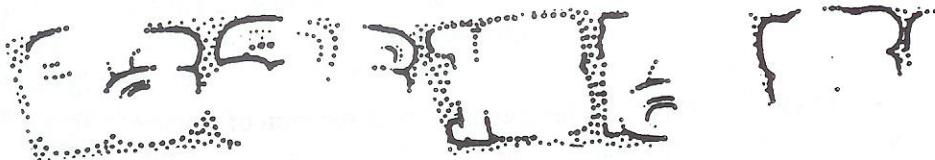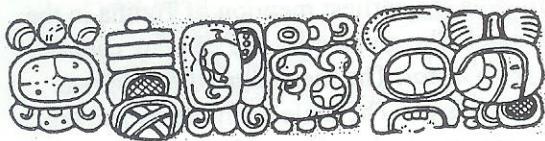
9.7.19.10.0 (?) (March 15, 593), CRC Alt 21: In Steve's reconstruction of the chronology of Altar 21, this is the latest non-round date written. The verb is a collocation with the number "nine" over a ballcourt. The following glyphs are the titles and names of Chekah, the older brother of Yahaw Te K'inich who for some reason never acceded to the throne. Maybe this is why he is associated with this ballcourt event. Perhaps this date marks the dedication of the Goup A ballcourt at Caracol by Chekah, the place, where more than two k'atuns later the ballcourt marker was placed by Tum Ol K'inich II.
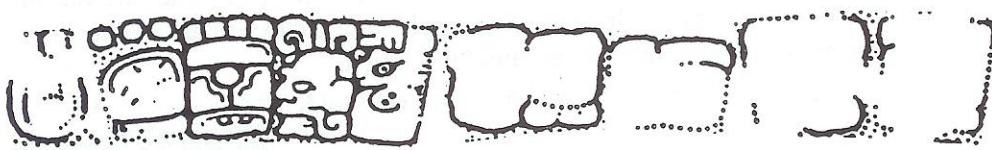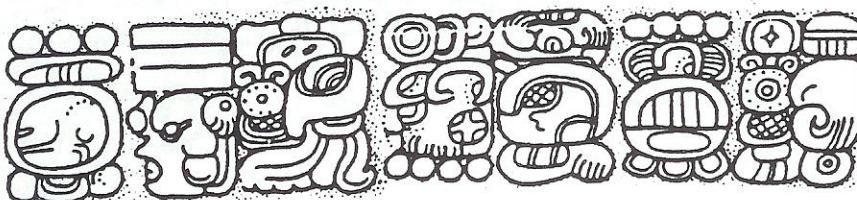
9.7.19.13.12 (May 26, 593), CRC St. 3: This is a first bloodletting of Tum Ol K'inich II and falls into a pattern of such events. The same glyph is used on Tikal Stela 10, D11 for a pre-accession bloodletting. The same type of bloodletting is represented on the newly discovered Dos Pilas Panel 19. Here, at age five, Tum Ol K'inich II (he still carries his pre-accession name Sak Ba Witz) is bloodletting *u kahi kan k'atun ch'ah ahaw* "by the action of the four k'atun dropper." Nikolai believes that this title is used for Tum Ol K'inich II's father, Yahaw Te K'inich, who by that time may have been in his fourth k'atun of life. It is also possible that this sacrifice, like on the Dos Pilas panel, was overseen by a lord from Calakmul.
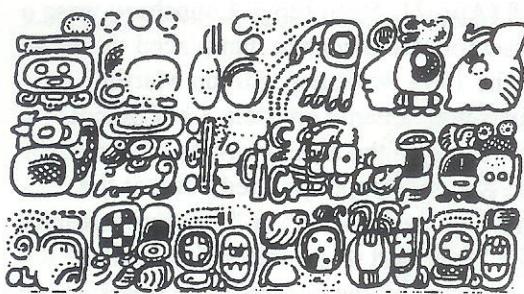
Caracol Stela 1 and Altar 21
9.8.0.0.0 (August 22, 593): This k'atun ending is recorded on two monuments at Caracol, one (Stela 1) from Yahaw Te K'inich's reign, the other posthumously by Tum Ol K'inich. Stela 1 gives the parentage of Yahaw Te K'inich.
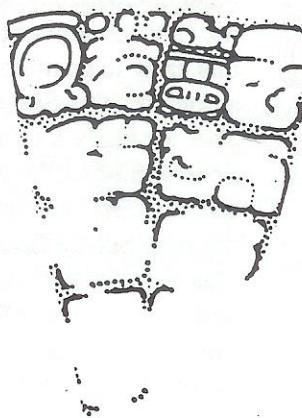
9.8.0.0.0 (Apr. 22, 593) Pusilja St. D: This is part of a long text that records this k'atun ending. The name of the ruler seems to be K'awil-Ok-K'in.

9.8.1.12.8 (Apr. 22, 595) Pusilja St. D: This event record the "burning" for a *lakamtun* or stela by a ruler named Scroll-nib. The event also includes *hubuy u tok' pakal*, "downed the Flint-shield" of some other site. This passage may include rituals with bones and skulls like we will see at Naranjo and Dos Pilas.

Lacanja St. 1, **9.8.0.0.0** (Aug. 22, 593); 9.6.11.0.8 (Jan. 29, 565): This period ending monument depicts this ruler in the Tlaloc-Venus costume. [Venus as Eveningstar at 9° elongation between Virgo and Leo]
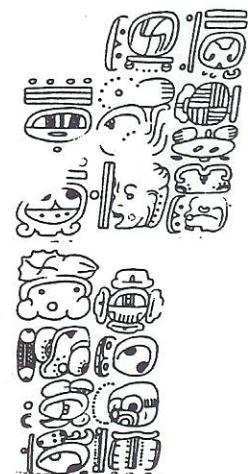
Naranjo, Alt. 1: **9.8.2.14.3** (May 21, 596): This event is a "mountaining" of the bones of someone from *Ko Witz,* a toponym that also shows up in Caracol's texts and on several pots. This particular series of events is associated with war and captives at Dos Pilas and Tortuguero. We may, therefore, have an oblique reference to war-related events here.
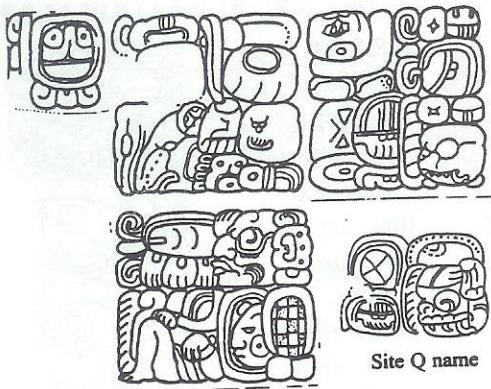
Palenque, HS, 9.8.5.13.8 (Apr. 21, 599): Floyd Lounsbury was the first researcher to assemble the evidence that placed this cr at this early lc position. In the 1992 workshop, Simon Martin associated this Site Q ruler with a name on Stela 3 at Caracol. This is clearly a ch'akah verb with the Site Q lord as the actor. Schele in her 1990 Mesa Redonda paper pointed out that the second verb must read *yaleh,* "they said it," or "they threw it." At the time Schele favored a "they said it" interpretation with the idea that the war was sanctioned by the gods of Palenque. Grube and Martin have offered a different interpretation that is perhaps more appropriate: that the patron gods of Palenque were thrown down or out by the victors of Site Q.

Site Q name

Caracol Stela 6, 9.8.5.16.12 (June 24, 599): On this day, close to the summer solstice, was the accession of "Flaming Ahaw," or Houston's Ruler IV. "Flaming Ahaw" must have been an important king at Caracol, though not much is known about his life. He erected Stelae 5, 6 and 7 in front of Structure A13, which is south of the Ballcourt which has Altar 21. They are among the largest monuments at Caracol. For some reason, "Flaming Ahaw" is never mentioned in texts by Tum Ol K'inich or any of the later rulers. Who was "Flaming Ahaw?" On his monuments he refers to Yahaw Te K'inich as often as Tum Ol K'inich does on his. Nikolai believes that Flaming Ahaw, like Tum Ol K'inich, was the son of Yahaw Te K'inich. This is supported by the fact that on Stela 6 the accession phrase is accompanied by a somewhat obscure phrase where an *ahaw* headband is passed on *ti yune* "to the son," perhaps from Yahaw Te K'inich to Flaming Ahaw. This means that Flaming Ahaw and Yahaw Te K'inich had the same father. They cannot have had the same mother: Lady Batz' Ek', mother of Tum Ol K'inich was born at 9.6.12.4.16 and arrived at Caracol 9.7.10.16.8. She would have been less than ten years old at the date of Flaming Ahaw's birth at 9.7.2.0.3. Therefore, Flaming Ahaw must have had a different mother. He was the elder half-brother of Tum Ol K'inich.

Palenque 9.8.9.13.0 (Mar. 23, 603): Birth of Hanab-Pakal
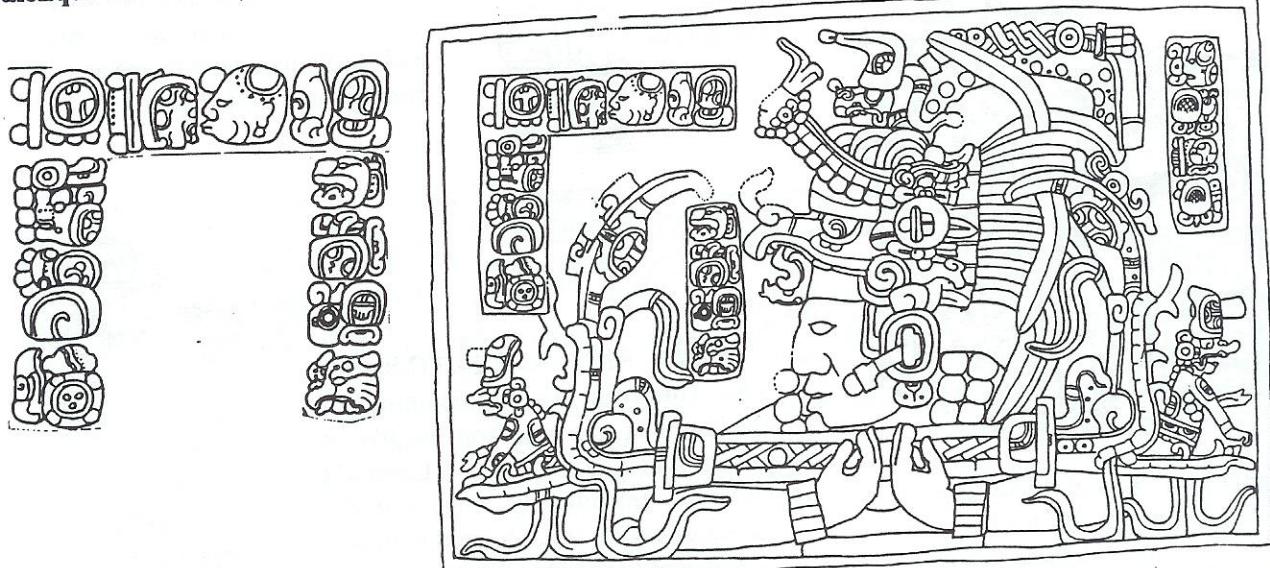
Bonampak, Lintel from Str. 6, 9.8.9.15.11 (May 13, 603): Nikolai first recognized that this text records the downing of the tok'-pakal of "He of Lacanja," the name of the capitol of Palenque. He identified this as a victory of Bonampak against Palenque.

9.8.10.6.16 (Nov. 14, 603) Accession of Piedras Negras Ruler 1

Lamanai Stela 9
9.8.14.17.16 (May 31, 608): This is some event done by the Lord of Lamanai to a k'atun ahaw of unknown origin.
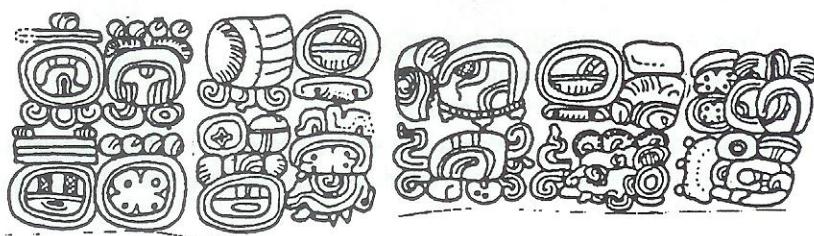
Palenque TInscrip, **9.8.17.15.14** (Apr. 4, 611): This event records a *ch'akah* event against Lakamha. We think this is an attack against the capitol of Palenque. The second part of the passage records that this action was done by a person from Pipia, a toponym that shows up in the inscriptions of Pomona. This is the neighboring kingdom to the east of Palenque.
[Venus as Eveningstar at 9.8° elongation.]
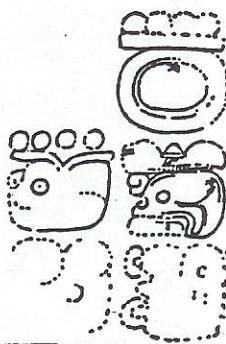
Arroyo de Piedra Stela 1
9.8.19.11.16 (Jan. 5, 613):
The nature of this event is not known. This is one of the earliest historical dates from the Petexbatun Area. The only other Early Classic dates from the vicinity of Dos Pilas are from Tamarindito (HS 4).
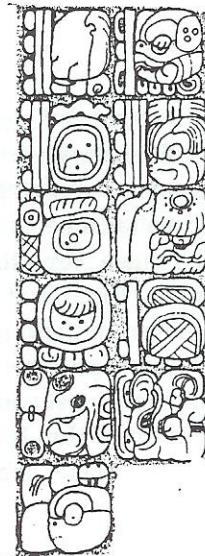
Arroyo de Piedra Stela 1 **9.9.0.0.0** (May 9, 613):
This text is cited here because it contains more information than just a record of the period ending in which the paddlers seem to be involved. The text contains a parentage statement for the lord of Arroyo in which the father's name is the most interesting element. The father carries an emblem glyph (perhaps an early form of Arroyo de Piedra/Tamarindito emblem). The emblem is followed by a glyph that contains a vulture head (*ahaw*?) with a *wa* suffix, and perhaps an *u* pronoun as a prefix, though, with *ahaw* one would expect a *ya* sign as the pronoun. Simon and Nikolai believe that the next glyph is the *yukum* title carried by kings of Calakmul instead of their original names. Perhaps this phrase means that the Arroyo lord is a *y-ahaw* or *yukum* of Calakmul. The very last glyph could be *ilah* "it was seen/witnessed." The implications of this interpretation are of potential value for explaining why the Petexbatun area was settled by the cadet line from Tikal. Dos Pilas Ruler 1, Flint-Sky-God K rebelled and joined the opposition. Therefore he may have chosen an area that already had connections to Calakmul.
[Venus as Eveningstar was at 45.1° elongation. Palenque recorded its elongation on the east panel of the Temple of Inscriptions.]

Naranjo St. 25
9.9.2.0.4 (May 3, 615):
This text informs us that Ah Wos was still ruling at this time, although his death must have come soon thereafter. His reign (or age) was at least seventy tuns.

Site Q Panel, **9.9.2.0.8** (May 7, 615):
This is the first in a series of events written on four all-glyphic panels. When these panels came to the United States and Europe, their origin was not known. Peter was the first to show that the widely distributed panels may have the same origin and that they mention the same set of individuals. For a long time we all thought that these pieces were looted from the enigmatic "Site Q." It seems now clear that Site Q, the "Snake emblem site" is Calakmul, however, these panels are not from Calakmul but from a subsidiary site under its control. It is possible that the place of origin is in the vicinity of a site called Placeres which is almost completely unknown archaeologically. This text passage refers to the birth of Hun Nal Chak Nab Kan, a local lord, and to his parentage. [Venus as Morningstar at 45.8° elongation]
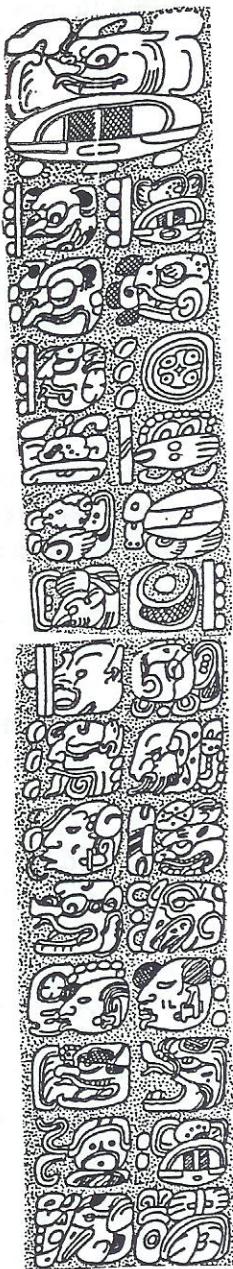
Palenque 9.9.2.4.8 (Jul 26, 615) accession of Hanab-Pakal

Caracol Stela 3 **9.9.4.16.2** (March 6, 618):
This sentence records the accession of K'an II /Tum Ol K'inich. In addition to his adult name, he still carries the *sak ba witz* pre-accession name. The accession takes place *u kahi* "by the action of" three gods who are protector gods of the Caracol dynasty. They are often shown in the open maws of the serpents hanging down from the sky bands on Early Classic Caracol stelae. [Venus as Eveningstar at 45.3° near the Pleiades.]
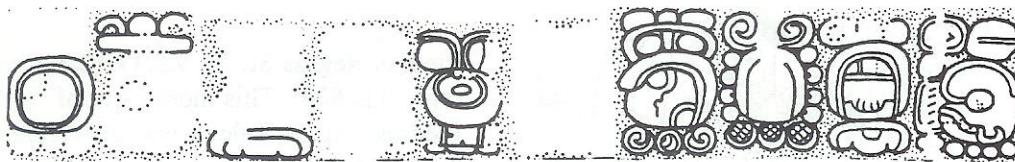
Caracol Stela 3 **9.9.5.13.8** (January 6, 619): Tum Ol K'inich expresses many ties to Calakmul on his monuments, including his performance of an now effaced event *u- kahiy,* or "under the auspices" of the Calakmul king, who, again, hides his individual name behind the *yukum* title.

Morales Stela 5 **9.9.9.0.0** (March 23, 622): Morales is a large Classic Maya city built over the ruins of a Middle Preclassic site at the riverbanks of the Río San Pedro. The monuments have never been adequately published, but Nikolai includes them in the overview because they somehow represent the connecting link between the Usumacinta area and Palenque and Calakmul in the North. The event is unknown.
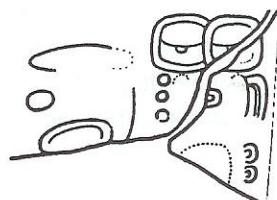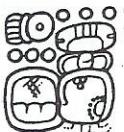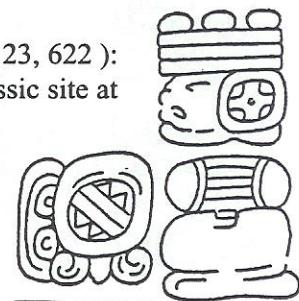
Caracol Stelae 3 and Stela 22 **9.9.9.10.5** (Oct. 14, 622) The same date is recorded on the two stelae, but the corresponding text can only be read on Stela 3. The text describes the arrival (*huli*) of ox "Chuwen-in-mouth" at the seat (*kun*) of *ox witz a,* the Caracol toponym. The arrival of ox "Chuwen-in-mouth" is overseen (*yilah*) by Lady Batz' Ek'. The sentence continues with a somehow obscure agency expression that includes Tum Ol K'inich, and finally a *y-ak 'aw* or 'gift-giving' by a Calakmul ruler or noble. Ox Chuwen-in-mouth may be some kind of object, perhaps the image of a God. This glyph also occurs in a phrase on Tikal Stela 31, on the Motmot marker from Copan (where the glyph is in the maw of a double headed serpent bar held by Yax K'uk' Mo'), and on Caracol Stelae 16, 17, and 19. If the glyph refers to a sacred object, it could be the gift given to Tum Ol K'inich by the Calakmul lord. An alternative interpretation could be that Ox-Chuwen-in-mouth arrived at Caracol (perhaps in a procession) and the Calakmul lord made an offering to the image or god represented by it.
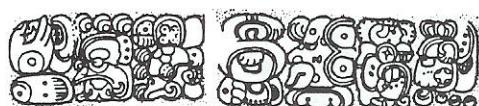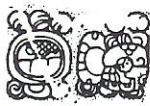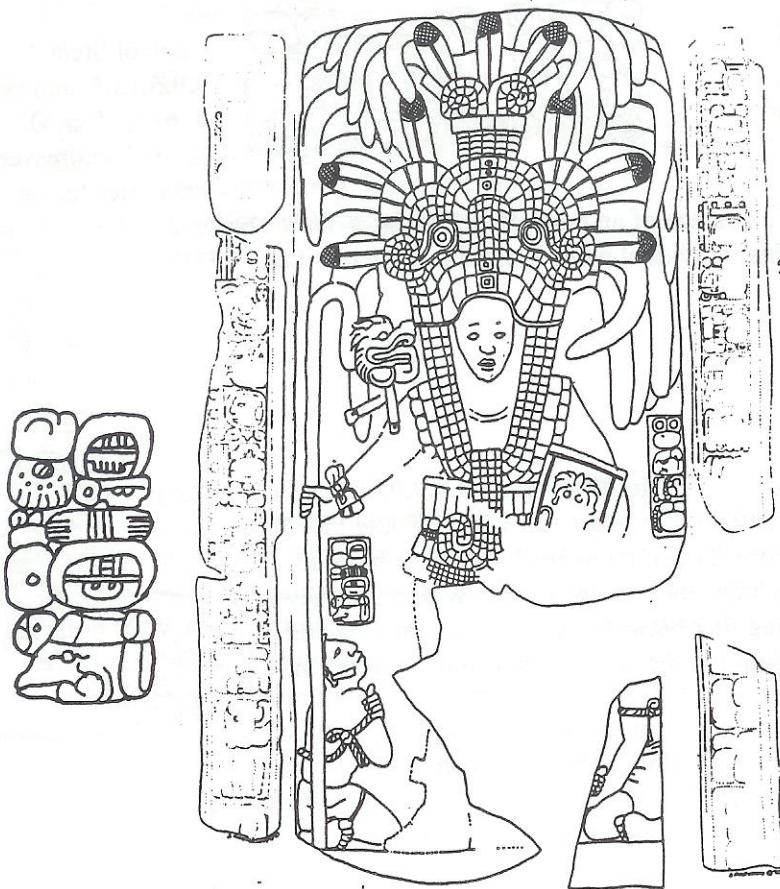
Piedras Negras St. 26, **9.9.11.12.3** (Nov. 11, 624): This monument of Piedras Negras Ruler 1 was dedicated on 9.9.15.0.0, but the historical date of importance seems to be 9.9.11.12.3. Unfortunately, the verb has not survived. The two captives in the scene come from different kingdoms. One is Ch'ok Balam, a Yakun of the Ch'ul Ahaw of Palenque. Houston and Stuart have identified the ah Kun title as that of an administrator. The second captive is a man named K'ab-Kan-Te' who is a *Sak Tzi' Ahaw* or "White Dog Lord." [Venus as Morningstar at 45° in Virgo; Jupiter in Taurus and in opposition to the sun.]
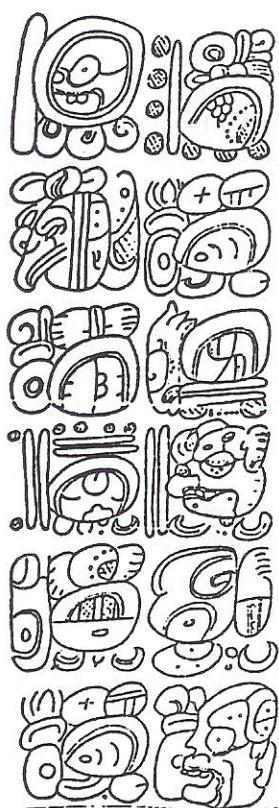
Site Q Panel 2 **9.9.12.0.6** (March 13, 625): This is the accession of an *ahaw* of a vassal site of Calakmul. His name is *sak mas*. Stephen Houston and Nikolai have shown that the name translates as "white goblin (duende)." The name is written with syllabic signs in the first mention and with a logographic portrait head in the restatement of the accession.

Stela 3

9 K'an 2 Sek
9.9.13.4.4

hubuy

he from Naranjo

u kahi Tum Ol K'inich

B18 Stucco

Naranjo toponym
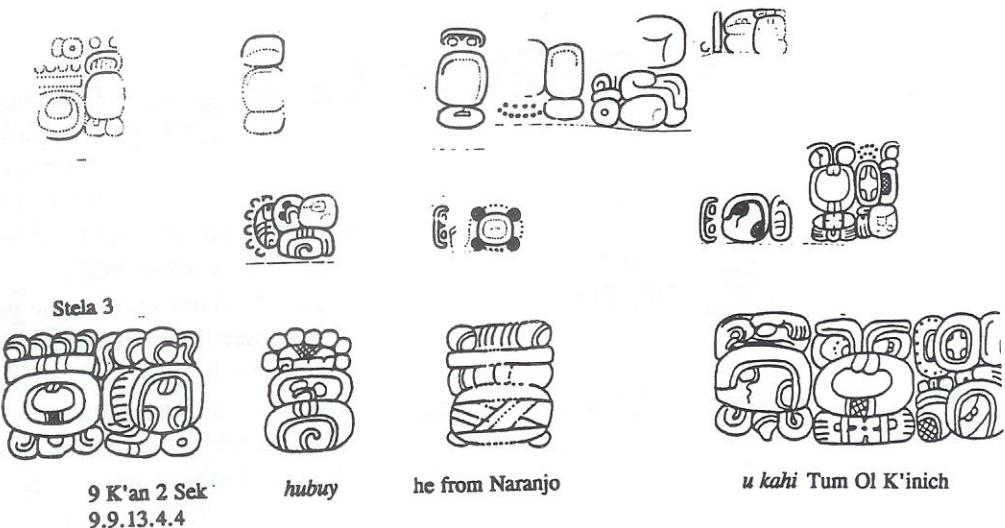
Caracol Stelae 3, 22 and Stucco Text from Structure B18 **9.9.13.4.4** (May 25, 626): During the reign of Tum Ol K'inich, Caracol engages in a vigorous military campaign against its northern neighbor, Naranjo. The campaign consisted of several attacks, the first being a *hubuy* event against an individual from Naranjo. The three monuments record this attack in different ways, but it is always clear that Naranjo is the target. On the B18 stucco the target is a location *ko-?* which is also mentioned on Naranjo Altar 1. Is this the name of the place where the cache mentioned in the Altar 1 text was placed?
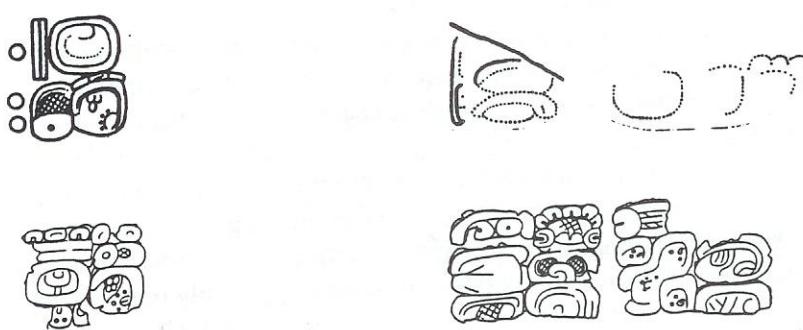
Caracol Stela 22 and B18 Stucco **9.9.13.8.4** (August 13, 626): Another attack against the *ko-?* place from Naranjo. Note the unusual glyph before the *hubuy* verb.

Caracol Stela 3, B18 Stucco, and Naranjo Hieroglyphic Stairway **9.9.14.3.5** (May 1, 627): This is the last of the *hubuy* events by Tum Ol K'inich. This time the target is a place called *tza-?*. The location of this toponym is not known; the general context suggests it is somewhere within the Naranjo polity. Most significantly, Tum Ol K'inich presents his *y-itah* relationship to the Calakmul king, here veiled (as it so often is) by the generic *yukum* title. The text on the Naranjo Hieroglyphic Stairway has the same date, but a different event. While Tum Ol K'inich is attacking Naranjo, the king of Calakmul is playing ball at the *ox ahal eb* "three victory stairs." That this is the king of Calakmul is clear from Caracol Stela 22, where the *ta* sign over the head with the long mouth is associated with the Calakmul emblem glyph.
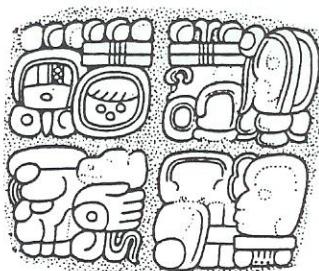
Naranjo HS, **9.9.17.11.14** (Oct. 1, 630): The ruler who played in the ball game above, dies in this clause.
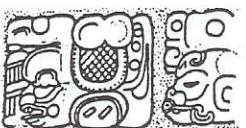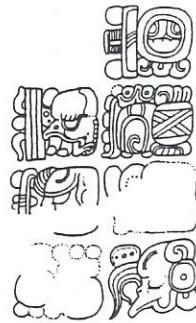
Naranjo Hieroglyphic Stairway and Caracol Stela 3 **9.9.18.16.3** (December 24, 631):
These wars against Naranjo involve the immediate successors of Ah Wos, who, as we have seen already, acceded under the aegis of Calakmul. The final, decisive event of this sequence of wars was a further Star War action, marking the conquest of Naranjo. After this, Caracol established hegemony over this center and erected a truimphal stair, commemorating its victories and recording a biography of Tum Ol K'inich. However, it is crucial to note that this monument, as well as St. 3 at Caracol, gives the true agent of the Naranjo conquest, using the same *u-kahiy* term seen earlier, not as Tum Ol K'inich, but as the king of Calakmul, whose name is veiled behind the generic *yukum* title. Furthermore, the fallen Naranjo ruler, whose name is also hidden behind the head variant of the *sak chuwen* "Naranjo rulership" title, was apparently removed to Calakmul itself, *ta ox-te-tun-ah naab tunich*, where he was evidently tortured in a ritual that may have involved his cannibalization (*k'uxah*). Since we know that Caracol maintained its authority at Naranjo for the next twelve years at least, it is clear that actual control of Naranjo passed from the hands of Calakmul to those of Caracol. [Venus as Eveningstar at 5° elongation in Capricorn.]
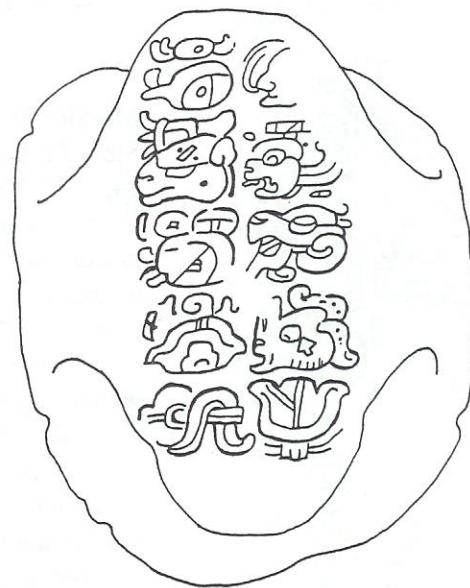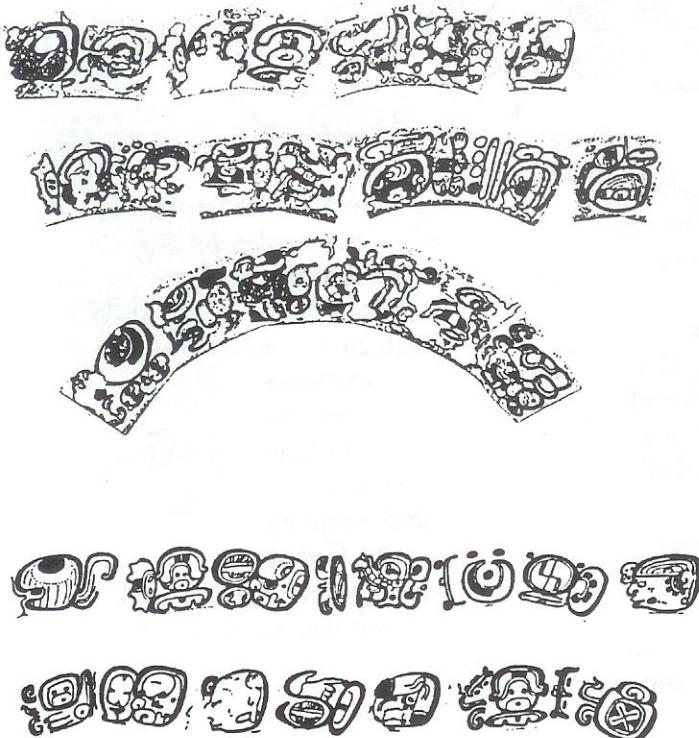
AA Shell Turtle

The texts associated with Tikal Ruler 22 are found on two stucco texts from Burial 195 and on several looted pots from the region. The name phrase of this king includes a long series of titles, including either a combination between the *il* eye and an imix sign, blue or black flower, sky-earth partition, *k'inich*, and his personal name. That name consists of a *winal* head, probably the *e* head with a T712 sign in its head. This sign is normally *ch'am* or *ch'ab,* but there is one example from an Early Classic bowl from Waxaktun where it appears in the mouth of a Pax head. In that context it must read *te*. The name is possibly K'inich Et. The same name appears on the turtle shell at the right as the overlord of the shell's owner. This is probably not the same lord since the other components of the Tikal name are not there, but it does show that the name occurred at more sites than just Tikal.

No stela are known from his reign, but the tomb contained the negative mold of carved wooden palettes with the date 9.8.0.0.0 and additional texts continuing across four palettes. Each palette has a quatrefoil cartouche with a seated figure inside. In her 1975 dissertation on Tikal, Coggins suggested that the palettes were a funerary bier. That seemed like a good idea so most epigraphers have taken the 9.8.0.0.0 date to be his death date. Steve Houston changed all this when he noticed that the name on Altar de Sacrificios Stela 8 with the date 9.9.15.0.0. He and his colleagues in the Vanderbilt project pointed out that the name phrase includes the black flower and sky-earth components of the Tikal name. Although eroded, the Altar example seems clearly to be the same name. This identification changes our presumptions about the length of the 22nd ruler's reign. It also makes clear that he expanded Tikal's influence toward the southwest. Houston and his associates suggested that he established a cadet line at Dos Pilas and that its ruler, Flint-Sky-God K rebelled and joined the opposition. Houston has also redated the accession of Flint-Sky-God K to 9.9.12.11.2 , a little over two years before the Altar date. We think his new analysis is right on the mark.
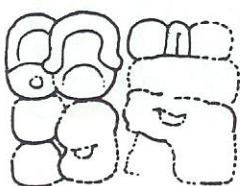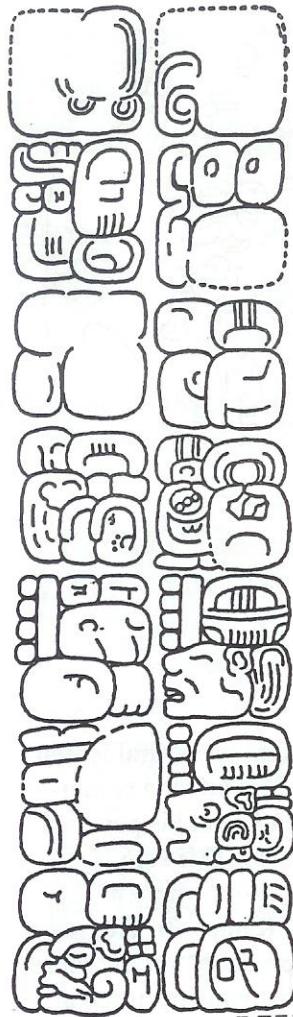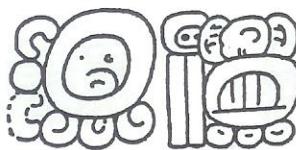
Morales Stela 1 and Caracol Stela 22 **9.10.0.0.0** (January 24, 633): This k'atun ending is celebrated at various places. At Caracol it is recorded on two Giant Ahaw Altars and Stela 22, erected on top of Structure A2, the second highest pyramid of Caracol, overlooking the A group plaza with its many monuments. The verb that follows the tun setting expression is *iwal k'ah* "and then it is recorded" or "and then it is remembered."

Naranjo Pan 1 **9.10.0.0.0** (Jan 24, 633): This clause records the end of the tenth k'atun at Naranjo by the lord of Caracol. Presumably, Caracol was then in charge of Naranjo.
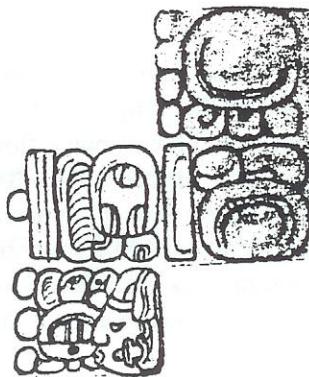
Altar de Sacrificios Panel 1 **9.10.0.6.13** (June 6, 633) An unknown event happens to a three k'atun ahaw. [Venus as Morningstar was at 8° elongation just before disappearance of the Morningstar.]
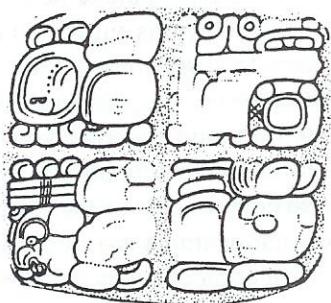
Naranjo HS **9.10.3.2.12** (Mar. 1, 636): This clause records another star event this time with a *tok'-pakal* and the *Waxaklahun Ubah* name of the war serpent. The actor is the lord of Calakmul. [Venus as Eveningstar at 45.66° elongation in Capricorn.]

Altar de Sacrificios Panel 1 **9.10.3.17.0** (Dec. 14, 636): An unknown event (*tuh-iy*) involving a person from *chakha* "red water."
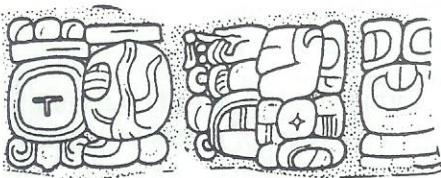
Naranjo HS **9.10.4.16.2** (Nov. 21, 637): Here is the celebration of the first k'atun anniversary of the accession of the Lord Kan of Caracol, celebrated at Naranjo.

Site Q Glyphic Panel 1 **9.10.6.0.9** (Jan. 2, 639): This is a throne event involving *hun nal chak nab kan*. Similar throne events are recorded on Naranjo Stela 18, Yaxchilan Lintel 26, and Site R Lintel 1.

Here, on the Site Q Panel, the verb describes an event that happens to hun nal chak nab kan at age 24. Perhaps this is a way to express the accession (enthronement) of this lord, who ruled over a vassal state of Calakmul.
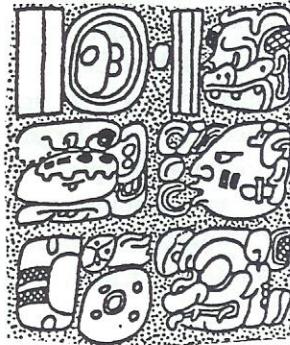
9.10.6.5.9 accession of Piedras Negras Ruler 2

Sak Tzi AA Den / Brus

+1 day

+1 day   +1 day

+1 day

9.10.8.3.5
(Feb. 16, 641)

Denver Panel

9.10.8.6.2
(Apr.14, 641)
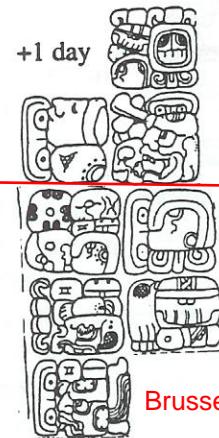
Brussels Panel
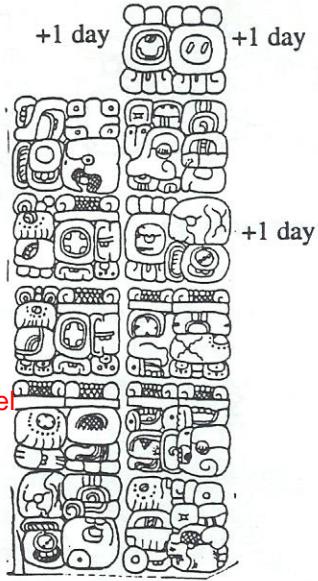
Piedras Negras region looted panels, various dates: These two panels are cut from one large piece with its initial section still missing. The text begins with the name of Ruler 1 of PN, which is followed by an *u kahiy* followed by the K'ab-Kan-Te' name in the captive phrase from PN Stela 26. Either the captive survived that encounter or the K'ab-Kan-Te' name functions more like a title for the people of Sak Tzi'. The second event took place about three months later and concerns a scattering of fire by a lord from Rabbit Stone, a toponym of Piedras Negras. It happened at the "seat" of the Kab-Kan-Te', Sak-Tzi' Ahaw. The next day saw a *ch'ak* war event against an object or place of same lord of Rabbit-Stone Place. This action was done by K'ab-Kan-Te'. Over the next two days, there was a capture of Star-Macaw of Bonampak' in the company of a person we shall call Ah K'an. The day after that there was an event that has yet to be deciphered. It happened to the same Ah K'an whose name is recorded with a long series of names and titles. Finally, the verb repeats followed by *yichnal*, "in the company of" K'ab-Kan-Te', Sak Tzi' Ahaw.

Tortuguero M6, **9.10.11.3.10** (Feb. 6, 644): This clause records the accession of Balam-Ahaw. Since the Palenque emblem glyph is used by the ruler of Tortuguero, most epigraphers have assumed it was a town or province within the larger kingdom of Palenque. [Venus as Morningstar at 46.5° elongation between Sagittarius and Capricorn.]

Tortuguero M6, **9.10.11.9.6** (Jun. 1, 644): A set of events took place shortly after Balam-Ahaw's accession. The first is written, *ok u na u tok' pakal*. *Ok* is a word for "foot" or "base." This event seems to be the setting of his first flint-shield on its base. We assume this is a large battle banner or object used in battles. The second event on this day reads ???*upteh ta ain*, and it involves some action done at the Cosmic Crocodile. And finally, there is a star-sell war event at a place called Xam Ah Ox Te' Ch'u.
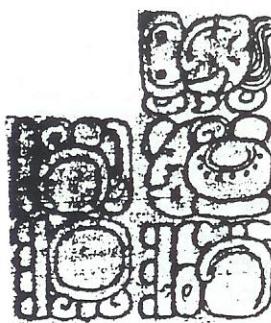
Altar de Sacrificios Panel 1 **9.10.11.13.0** (Aug. 14, 644): Another unknown event, this time a female seems to be the protagonist. [Venus as Morningstar at 7° elongation before disappearance.]
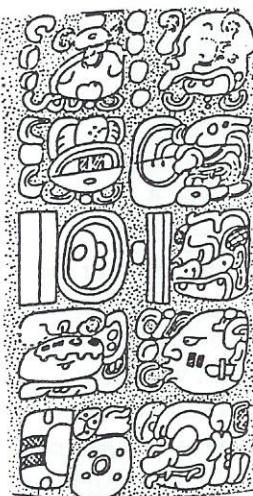
Site Q **9.10.12.0.9** (Dec. 1, 644): This event records a throne event for Chak-Nab-Kan. In this instance, the event occurred before this man's accession. Similar events occur in the inscriptions of Naranjo and Yaxchilan.
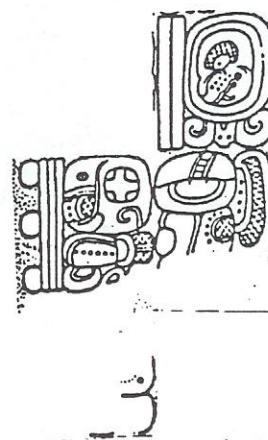
Tortuguero **9.10.12.3.10** (Jan. 31, 645): This is a ch'ak event against a site whose glyph is eroded.
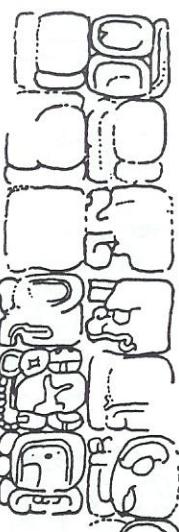
Site Q Glyphic Panel **9.10.12.4.8** (Feb. 18, 645): K'inich Hel is born. He is the son of Lady Wak Kan Ahaw (?) Cloud (*tok* means "cloud") Chak and Chak Nab Kan. The dog head in K'inich Hel's name is a *le* syllable and occurs as such in an *ahawlel* "kingship" glyph in the text of the Temple of the Inscriptions, Palenque.

Yaxchilan HS2 **9.10.14.13.0** (July 30, 647): This text records the capture of a man from Ix Witz (Jaguar Mountain) by Bird-Jaguar III, the grandfather of the famous Bird-Jaguar.

9.10.15.0.0 (Nov. 7, 647) Pusilja St. D: This passage records the the end of the 15th tun, but the protagonist may be the contemporary ruler from Copan. The phrase appears to include a location composed of a throne glyph with mountain. This combination occurs on Stela 1 at Copan. Moreover the name following u kahiy is similar to the names of the 11th and 12th rulers of Copan--Butz'-Chan and Smoke-Imix-God K. Other epigraphers have pointed out that the eg is the same as that of Quirigua, but Linda and Nikolai have suggested that Quirigua's "k'ank'in" sign is simply *tzuk,* "partition" or "province." Stela M to the left seems to repeat the Copan name but in a form to points to Smoke-Imix-God K, who ruled at this time. If this tentative identification is correct, then the Pusilja of this time was a province of Copan. We cannot be sure of this assessment until accurate and detailed drawings of Pusilja are finished (hopefully by Simon Martin), but if this identification is correct, then the southeastern corner of the Belize was aligned with Copan, whose hegemony included the Copan valley, the valley around La Entrada, Honduras, the lower Motagua, and part of the region between the Maya mountains and the Rio Dulce.

Pusilja St. D

Dos Pilas Hieroglyphic Stairway 1, Step IV **9.10.15.4.9** (Feb. 4, 648): Apart from Balah Kan K'awil's accession at 9.9.12.11.2, this is the earliest event recorded at Dos Pilas. The step from the newly discovered Hieroglyphic Stairway 4 describes *hubuy u tok' u pakal* "downed is the flint and the shield of," a war against an individual called *lam-nah K'awil*. The agency for this event is given to Balam Nah K'awil, or Dos Pilas Ruler 1. Here, he uses a long title sequence that includes the glyphs *bate pitz*. *Bate* is a word related to the ballgame, though its precise meaning is not clear. *Pitz* translates as "ballgame" or "ballplayer." His titles also include the Dos Pilas/Tikal emblem glyph. Dos Pilas arose as a new state on a relatively 'green field' site with little or no previous Classic Period occupation. One of its most striking features was its use an Emblem Glyph identical to that of Tikal. This rather puzzling occurrence has been the subject of much debate over the years, but may well be explained by recent work from David Stuart and Stephen Houston. They suggest it

was brought into the area by an offshoot of the Tikal dynasty and that Balah Kan K'awil was the son of the Tikal ruler Animal Skull. The political affiliations of Dos Pilas and Balah Kan K'awil were orientated not towards Tikal, but in the direction of the even more massive seat of Calakmul. On the last four glyphs of this stair Balah Kan K'awil states that he is a *y-ahaw*, a sublord of the Calakmul king.
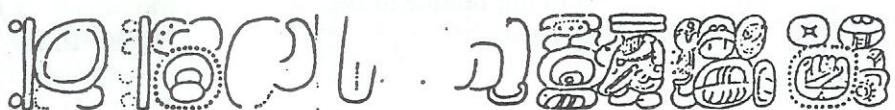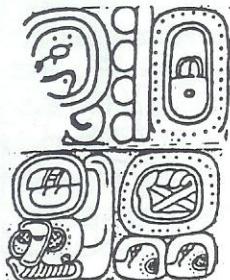
Tortuguero M6, **9.10.16.13.6** (Jul. 25, 649):
This text records an attack against a place called Yompi or Yomop. Since this toponym appears in the inscriptions on the bricks of Comalcalco, we tentatively identify it as a part of that kingdom. [Venus at Eveningstar was at 5.9° from the sun, possible heliacal rising.]

Tortuguero M6, **9.10.16.15.0** (Aug. 28, 649):
This passage records an as-yet-undeciphered event involving a woman. A possessed noun followed her name and there is a name that appears to include a jaguar head and a number. This may refer to a captive who appears in the subsequent capture.

Site Q Glyphic Panel 6 **9.10.16.16.19** (Oct. 6, 649):
This short sentence records the birth of the most famous ruler of Calakmul, Yich'ak K'ak', or Jaguar Paw. His name is often conflated with the *yukum* title of the Calakmul kings. Here, the title precedes Jaguar Paw's name. This sentence is written on a panel with unknown provenance. Simon and Nikolai believe these panels originally came from a site close to Calakmul, and there are rumors that they are from a ruined center deep in the forest of Southern Campeche called Placeres.
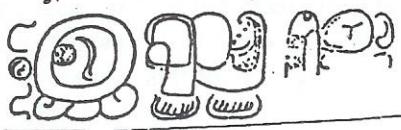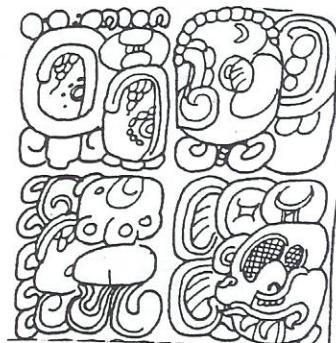
Tortuguero Sarcophagus, **9.10.17.1.2, 9.10.17.1.9** (Nov. 18 and Nov. 25, 649):
These two clauses record a capture of someone and then a *ch'ak* event against a person or place seven days later.
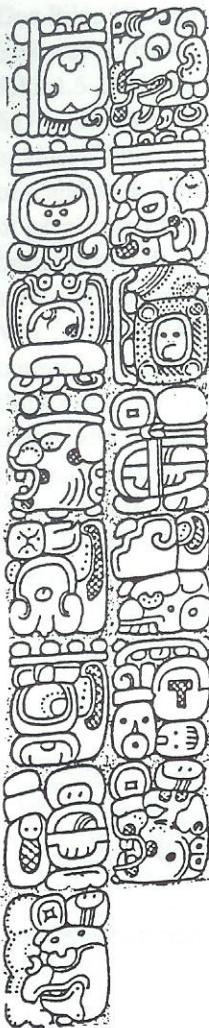
Earflares

Sarcophagus
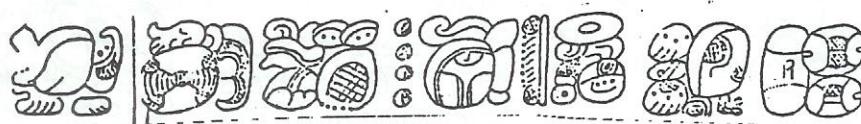
Sarcophagus
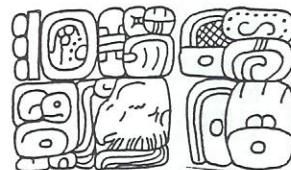
Monument 6

Wooden box

Tortuguero M6, Sarcophagus, earflares, **9.10.17.2.14** (Dec. 20, 649):
This is a star-shell event involving the *tok'-pakal* of Ox-Balam, who is a Hok'-Kan Ahaw. This toponym also appears on the bricks at Comalcalco so that this seems to be a second attack against that polity. The M6 statement to the left, continues with three additional verbs that are related to similar events at Dos Pilas concerning Nu-Bak-Chak's capture. These events appear to be "mountaining" and perhaps the taking of relic bones from the captive's dead body. Here there is a Bolon-??-nah event that concerns the man's soul. The actor is Tortuguero's Balam-Ahaw.

The record from the earflares includes the date, star-shell, and the location of Hok'-Kan. The Sarcophagus begins in the same way, but it has additional information. A second clause begins with *chukah*, "he was captured," and the name of a Tz'unua Itz'at K'up Kan Chuwen, etc. This is a different captive than the one named on Monument 6. This one seems to be a sage or artist. Finally, an *u kahiy* phrase introduces the name of Balam-Ahaw, who is a *?? k'atun ch'ahom, yahawte*. The last three glyphs may refer to the person who succeeded Balam-Ahaw. His name also occurs on the wooden box.

9.11.0.0.0 (Oct. 11, 652) coincided with the heliacal rising of Venus as Eveningstar. This association was celebrated with special inscriptions at both Palenque and Copan.
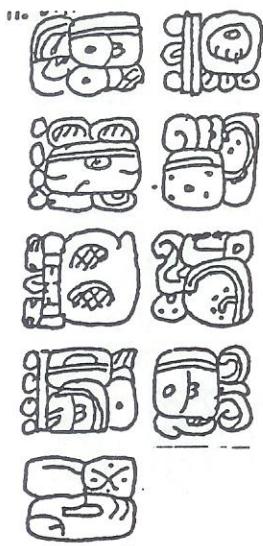
Cancuen panel, **9.11.0.11.1**
(May 20, 653):
This passage records the
death of the ruler of Cancuen,
but it apparently happened at
Nab Tunich, in Calakmul.

Site Q Panel 2 **9.11.2.7.14**
(March 4, 655):
Accession of K'uk' Ahaw.
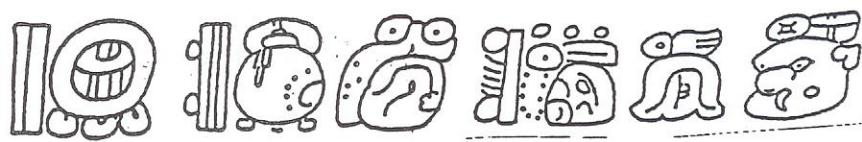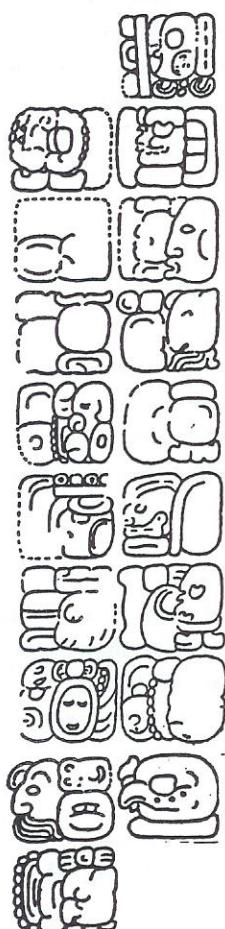
Tortuguero **9.11.2.17.0** (Sep. 10, 655): This is a another star-shell war
by Balam-Ahaw. This time the victim was Ah Ox-Te-Ch'u.

Morales Stela 4 **9.11.3.5.14** (Jan. 18, 656):
This is a birth event. Unfortunately, the draw-
ings of the Morales monuments are not too
reliable. The individual born most likely is a
king from Morales, and the long text perhaps
provides his parentage, though the usual
parentage glyph cannot be recognized. The last
glyph could be the emblem glyph of Morales.

Dos Pilas Hieroglyphic Stairway 2, East, Step 1 **9.11.4.5.14** (Jan. 12, 657): This is a Star War against Tikal *u kahi yukun* of Calakmul. This text is of great interest, not only because it is the first in a series of battles between Calakmul and Tikal, but also because it goes beyond a simple statement of the "Star War," it also describes some of the consequences of warfare in the verbs following the initial sentence. These consequences include that Shield Jaguar is forced to leave Tikal, as expressed by the *lok'i* verb. Nikolai thinks that the verb after Shield Jaguar's name, a variant of the "Step" verb from the Primary Standard Sequence, refers to his fate while being in exile, but he has no suggestion for its reading. The next glyph block probably contains the name of a place where Shield Skull went as a refuge - but this is pure speculation. Then follows another verb. It begins with a sign Werner Nahm and David Stuart have deciphered as a *nu* syllable. The verb describes an action done to *mutul tzuk ahaw*, the "lords of the quarters of Tikal." With a *nu* prefix, there are several possibilities for the verb, like "pursue enemies," cf. Tzotzil *nutz*, tv. "banish, chase, follow or pursue enemies" (Laughlin 1988: 275), or Chol *nup'* "to enclose" (Josserand and Hopkins 1988). The reading depends on the interpretation of the main sign, but this, to our knowledge, is its only occurrence.
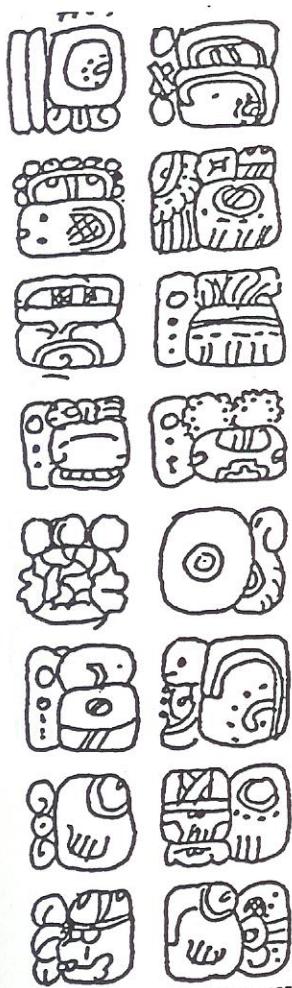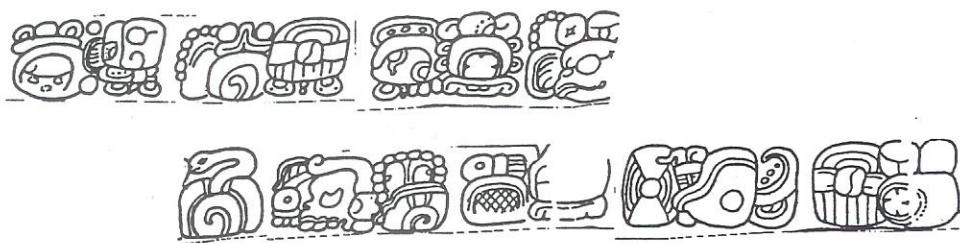
Cancuen panel, **9.11.4.9.2** (Mar. 21, 657): This passage is very difficult to decipher, but it seems to record the arrival at a mountain, *makan witz*, of a lord who has Ch'ab Ahaw and K'ul Yak Ahaw titles in his name. We do not know where this location was.

Cancuen panel, **9.11.4.16.19** (Aug. 25, 657): This passage records the completion of another journey by the Ch'ab Ahaw. There is also a tun-shell event that is usually involved in the 819 day count or building dedications. We also seem to have an island, *peten*, involved, but we don't know how or why.

Site Q Panel 2 **9.11.5.7.9** (Feb. 11, 658):
This text counts from the accession of K'uk' Ahaw in the past forward to the next event at 11 Muluk 12 Kumk'u, 9.11.5.7.9, which is the date of the accession of Chak Nab Kan. The event is described twice. While the second mention after the new date is the standard *chumlah ti ahawle* phrase, the first reference to the accession after the distance number and before the 11 Muluk 12 Kumk'u glyphs is *iwal uti ye-ku* "and then it happened *ye-ku*." The prefixd *y-* has to be a possessive pronoun, and *Ek* is used as a verbal root for "to sit, to place" in dedication texts from Tortuguero and Naranjo, but its direct linguistic equivalent has not yet been found in one of the languages relevant to the glyphs. [Venus as Eveningstar at 46.2° elongation in Aries.]
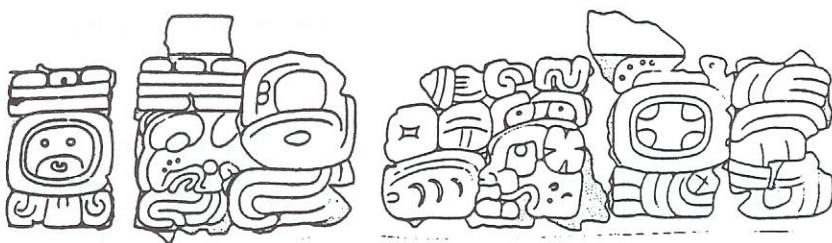
Caracol B18 Stucco **9.11.5.14.0** (June 22, 658):
This is the accession of "Smoke-Skull" the successor of Tum Ol K'inich. This new ruler has shifted his seat from Caracol to the small site of La Rejolla, where he erects stelae recording events between 9.11.9.16.2 and 9.12.0.0.0. The date of his accession is a few dates before the death of Tum Ol K'inich. Perhaps Tum Ol K'inich felt that he would soon die. [Venus as Morningstar at 45.4° elongation in Taurus.]
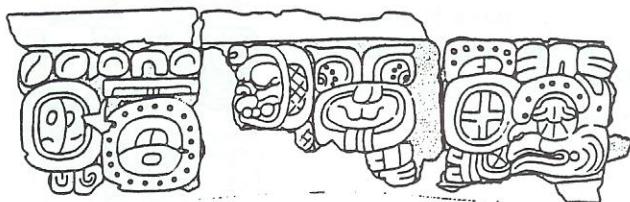
Caracol B18 Stucco **9.11.5.15.9** (July 21, 658):
Tum Ol K'inich dies, Note the spelling of the Caracol emblem glyph *k'ul K'an tu mak* with an owl for the *-k* element of the *mak* word.

Palenque 9.11.6.16.11 (Aug. 7, 659):

The mini-conference group first identified this event as associated with a lunar eclipse (below right). It began at 10 P.M., and was at maximum at 12:23 A.M. The number tree has been read as *an,* but we do not know the value of the blindfolding eye or the verb in front. The numbers on the tree are the 6.11.12 moon formula used at Palenque. The next glyph is Nu-Balam-Lakam-Chak. A very similar name occurs on Tikal, Temple 1, Lintel 3 as the name of the protector on the palanquin. Here this being is called the *yitah,* "companion of," Shield-Jaguar of Yaxchilan. At the time, Shield-Jaguar was only about eleven years old and not yet king. Perhaps the eclipse was seen as effecting the Nu-Balam-Lakam-Chak adversely, for the next passage begins with what appears to be *chuk u bak,* "was captured, the captive of," Nu-Bak-Chak, the name of the contemporary king of Tikal. The passage ends with "he was captured." Nikolai and Simon have suggested this was the capture of a palanquin from Yaxchilan.

The coupleted repetition of the event begins with the cr and then records *yitah* in verbal position. The succeeding glyphs name four of the six captives shown on the substructure of this building. One of these captives carries a toponym associated with Pomona. The last part of the text records that these events occurred in association with the dedication of House C.

As the west panel of the Temple of Inscriptions records, six days later on 9.11.6.16.17, Nu-Bak-Chak arrived in the company of Hanab-Pakal. We think this was a state visit. Apparently the Tikal king went to battle with Pakal. We are not told what he wanted or what happened between the two rulers, but we think it likely that Nu-Bak-Chak was looking for help in his wars against Calakmul. By this time, Flint-Sky-God K had changed alliances to Calakmul and Naranjo was defeated.
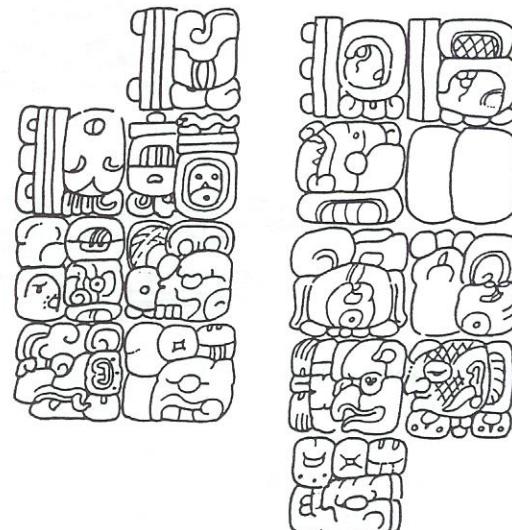
Site Q Panel 9.11.7.6.8 (Jan. 11, 660):
Lady Wak Kan Ahaw and king Chak Nab Kan had a second son who was born on 9.11.7.6.8. His name is Chak Ak', and he is called *uy-itz'i winik ch'ok* " the younger brother person child" because he is the younger brother of K'inich Hel.

Morales Stela 4
9.11.8.12.10
(May 7, 661)
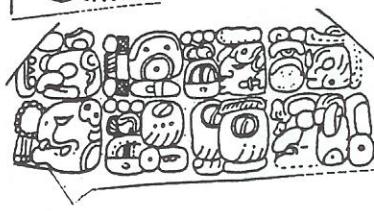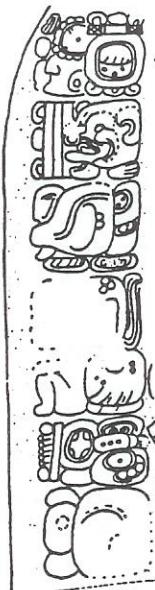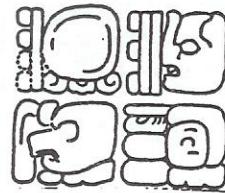
Yaxchilan Lintel 46, St. 20
9.11.9.4.14 (Nov. 27, 661):
Proskouriakoff placed this date one cr later, but Peter Mathews reset it based on age considerations and other factors. We will go with Peter's dating . The captive is Ah-K'an-Siuh-Buk-Tun-Ahaw. To our knowledge Buk Tun has not yet been identified.
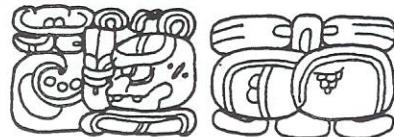
Palenque House A **9.11.9.10.12, 9.11.9.10.13** (March 25-26, 662): These two texts appear on the loincloths of two captives that flank the stairs leading into the Northeast Court. The events are *nawah,* "decorate," and these captive are the *yahal,* "the conquered of ," in one text the Ch'ul Bak Ahaw, and in the other, of the Chakte. Pakal is the Palenque king who carried this title in his name. [Venus as Morningstar was at 7° elongation before superior conjunction.]
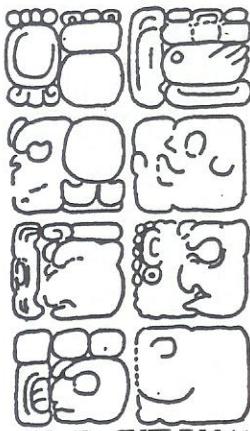
Morales Stela 4 9.11.9.11.3 (April 5, 662):

Although the drawing of the text does not show all its detail, it is clear that this passage describes the accession of the Morales ruler whose birth was recorded after the Initial Series of 9.11.3.5.14. The seventh glyph in this text is the Calakmul emblem glyph. Nikolai saw the Calakmul emblem in the published drawing by Cesar Lizardi Ramos, and after the Palenque Mesa Redonda Simon, Inga Calvin and Sandra Beardslay went to Morales and checked the original monument. Simon was able to confirm that the glyph indeed is the Calakmul emblem glyph. The glyph before the emblem could be a form of the *yukum* title (the bird head may in fact be that of an owl and thus *kun*). Between the accession statement and the potential *yukum* glyph there is a glyph with an *u* prefix. Could this be the *u kahi* glyph? If this suspicion holds true, Morales was the center of another polity within the Calakmul sphere.
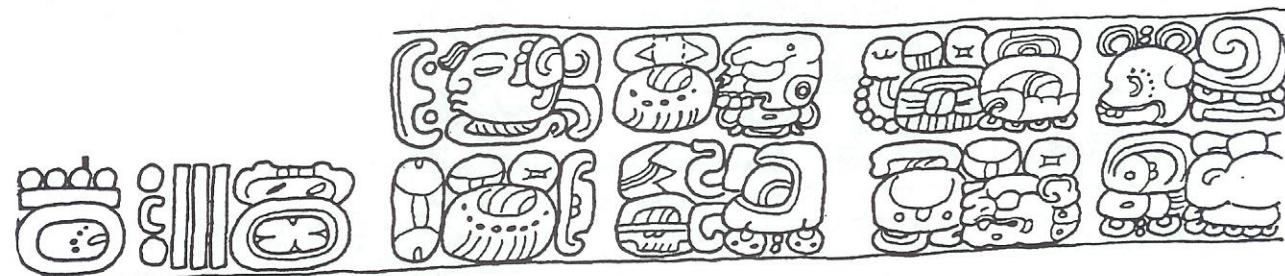
Dos Pilas Hieroglyphic Stairway 2, East, Step 3 9.11.9.15.19 (July 10, 662):

For a long time, this passage was not understood. In the summer of 1993 in Antigua, we went through Robert Laughlin's dictionary of 16th century Tzotzil and found *nak* as the root for one of the words for "to attack," "lead a battle against" (*Texas Note 56*). We interpret the passage as a war by Balah Kan K'awil against *ta-ba kimi koban ahaw*. We do not know whether *koban* is the same as the present day Koban in the Verapaz, or whether this *ahaw* is from a place called *koban* somewhere in between Tikal and Dos Pilas. For some time we also thought that this *koban* is also mentioned on the "capture bones" from Burial 116 at Tikal, but Simon has found good evidence that the place mentioned on the bones is *kobah* (perhaps the present day Koba in Quintana Roo) and not *koban*. The battle is lead by the Dos Pilas king who in companionship with (*y-itah*) a person who is a *kalaw balam ahaw*. The battle takes place at the "knot place." This may be the same "knot site" which is mentioned at El Chorro in the name of a mother of the local ruler. Stephen Houston and Joel Palka have pointed out that the knot site is also used by the overlord mentioned in the text of the Lakanha panel in the Dumbarton Oaks collection. According to Stuart and Houston, this points towards a location some where between El Chorro and Lakanha, near the upper reaches of the Usumacinta River.
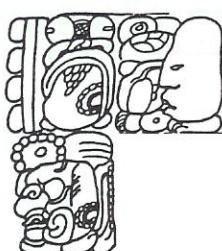
Site Q 9.11.9.17.16 (Aug. 16, 662):

The date of this dedication event cannot be placed into the lc with security. This is one of the alternatives calculated by Peter, the other is 9.14.2.12.16.

Site Q Saenz Collection Panel, Calakmul Stela 9 **9.11.10.0.0**
(August 20, 662): The Site Q panel notes a *chok* event to cel-
ebrate the lahuntun ending, while there seems to be no real verb
on the Calakmul Stela. The protagonists on the Site Q Panel are
Chak Nab Kan and his wife, Lady Wak Kan Ahaw. Chak Nab
Kan carries the *sak wayas* title which Simon, Linda and
Nikolai have interpreted as a title restricted to subsidiary lords
associated with Calakmul.
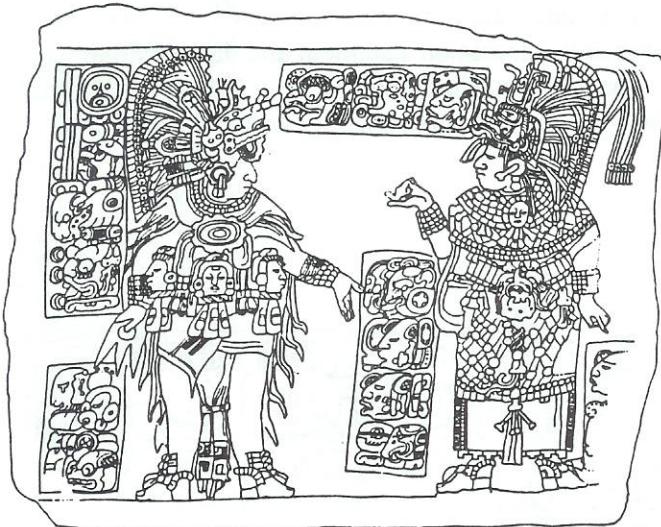
The wife of Chak-Nab-Kan is named Wak-Kan-Ahaw. The wife of
an earlier ruler of the same name carried the same title--as does the
Dos Pilas woman at Naranjo, and a Motul de San Jose woman at
Yaxchilan. We think this is a title for foreign woman or for particular
offices held by foreign wives.
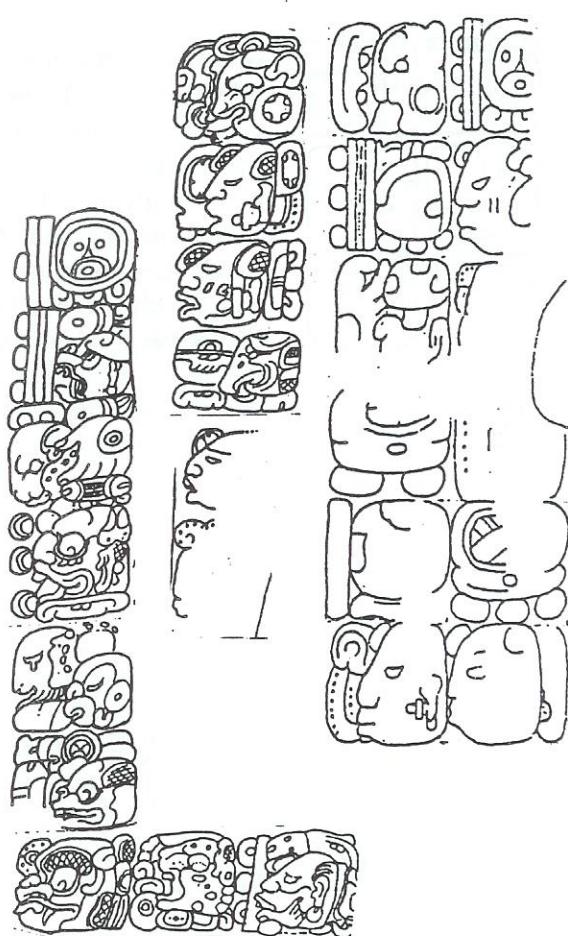
Site Q Glyphic Panel 7 **9.11.10.10.15 ?** (March 23, 663): This is the second
phrase from the Site Q Panel whose dates cannot be placed with confidence into
the Long Count. Again, Peter has suggested a second possibility, one LC later:
9.14.3.5.15, which is equally possible. The text reads *ochi butz' to yotot k'ak'
balamnah, y-ilah yukum kan ahaw* "smoke entered into the house of K'ak'
Balamnah, it was witnessed by Yukum, divine Calakmul king." The text is from a
site in the vicinity of Calakmul, and the Calakmul king came to participate in the
ritual.

Palenque House C, **9.11.10.16.17** (July 13, 663):
This text is in final position on the west substructure
of House C. The other texts appear to record names,
but we don't know if they are locals or captives. Here
we have the death of a person from the Pia province
of Pomona.
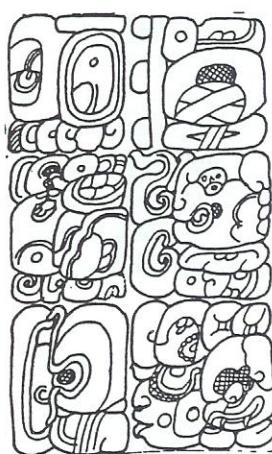
Site Q Panel 2 9.11.11.7.12 (Jan. 14, 664):
There are two sentences associated with this date. The first is "it was six years, eleven winal, and three days after he was set into kingship, and then he danced with *chabi*." In Tzotzil, *chabi* translates as "govern, guard, watch over," so this may be a dance by which the king (still Chak Nab Kan) publicly shows and legitimizes his power as the governor. Then the new date which is reached is introduced, and the text continues with another verb. This is the verb Nikolai has deciphered as *xan* "to travel, to leave," and here it precedes the *naab tunich* location associated with Calakmul. The person who is travelling to *naab tunich* is *yo-hel*. He may be the same as K'inich Hel, son of Chak Naab Kan and Lady Wak Kan Ahaw. In summary, it seems that at the day of the king's dance his son is departing for a journey to a location within the polity of the powerful ally, Calakmul.
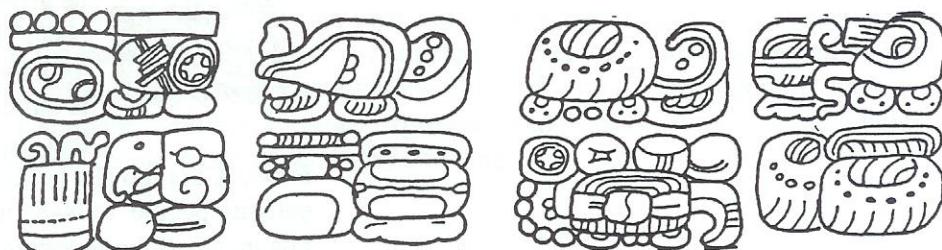
Dos Pilas Hieroglyphic Stairway 2, East, Step 4 9.11.11.9.17 (Feb. 20, 664):
The Dos Pilas wars continue with the capture of Tah Mo. Tah Mo has a title which looks like the ah sign over the Machaquila emblem glyph. Unfortunately the critical detail is eroded. There are no texts from this time at Machaquila, so we cannot confirm this connection. Tah Mo is a name with wide distribution, but somehow it is only carried by captives. Houston suggests it is a title and not a name accorded to captives. The next glyph is *u bak-*? "he is the captive of," followed by the name of Balah Kan K'awil and his emblem glyph. Apparently, Dos Pilas is expanding rapidly after it was founded or occupied by the new dynasty.

Site Q Panel 2 and New Site Q Panel 9.11.14.9.1 (Jan. 27, 667):
The death of Lady Wak Kan Ahaw is the topic of several sentences. It is recorded as *och bihiy* "she had entered the road" and as *ch'ay u sak nal* "lost is the white/clear *nal*." Lady Wak Kan Ahaw dies only a few months before her spouse.
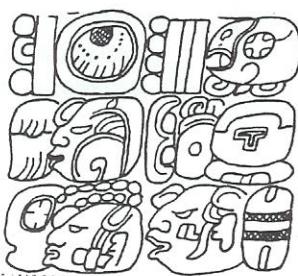
Site Q **9.11.15.1.5** (Aug. 19, 667): The distance number connects the accession of Chak Nab Kan with his death (*iwal och bih*). Though he was a very important ruler, he had a short reign of only nine years.

New Site Q Panel **9.11.15.1.11** (August 25, 667): The distance number that begins the passage counts from the first *xan* event at 9.11.11.7.12 and links it to the glyph *iwal huli* "and then he arrived," without repeating the Naab Tunich location. The journey took more than three years, which is quite a long time. We suspect that *yo-hel* did not travel straightforward, but moved, perhaps with numerous accompanying people, to Nab Tunich. It is also possible that this included the founding of a new settlement and that the three years were the time needed to look for an appropriate place.

Site Q Panel **9.11.15.2.16** (Sep. 19, 667): After the death of Chak Nab Kan at 9.11.15.0.5, his successor accedes to the throne. The name of the successor is *u nikil sak wayasbi* "the son of the white transformer." Simon, Linda and Nikolai interpret Sak Wayas as a title for subordinates of the kings of Calakmul. On two panels from Site Q, Sak Wayas is the name of the brother of the current Calakmul king. It is possible that Chak Nab Kan, who carries the Sak Wayas title on the panel that records the 9.11.10.0.0 date, was the brother of the king of Calakmul. [Venus as Eveningstar 46.7° elongation in the head of Scorpius.]

New Site Q Panel **9.11.16.2.3** (Sep. 10, 668): The distance number leads to a date after the death of Chak Nab Kan, which at the same time is one year, two winal, and three k'in after 9.11.15.0.0. The new event is *u patih* "he constructed, he built." Presumably this date marks the completion of the construction of the tomb or burial structure for Chak Nab Kan. The agent is not named, but it is understood that he is the current king.

New Site Q Panel and Site Q Glyphic Panel
B **9.11.16.2.8** (Sep. 15, 668):
The next sentence is associated with a date
five days after the previous event. The first
verb is the introductory glyph from the PSS,
which Barbara, David, and Nikolai interpret
as some kind of focus-marking verb. The
next glyph is the main verb, it is introduced
by an *iwal* "and then" focus marker. The
main sign is a vessel with a *k'in* sign infixed
and a *le* suffix. This is a common dedication
verb and refers to the burning of incense. Very often, the sign is accompanied by smoke scrolls. The *le* suffix
is also found with other examples of this verb and could be evidence for an *el* reading of the dedication verb.
Elel is the verb "to burn" in Yukatek Maya. The next glyph is *nah*, "house," and is followed by *u muknal* "his
tomb." The text from Glyphic panel B is not complete, the verb and the date are missing. That the remaining
glyphs refer to the same date as the tomb-dedication date is clear from a distance number preserved on the
panel. The text mentions Chak Nab Kan as a *bakab* "first of the world" and *y-itah* "companion of" Lady Wak
Kan Ahaw. The last glyph block contains the *u kahiy* agency expression and probably the Calakmul emblem
glyph. Thus, the tomb was dedicated by the action of the Calakmul king.
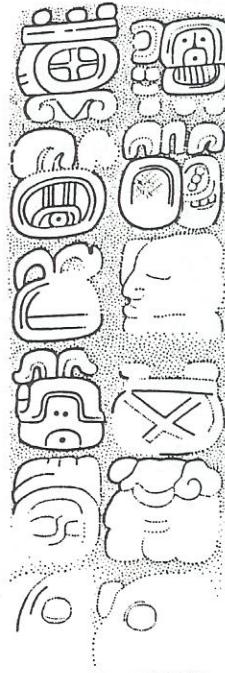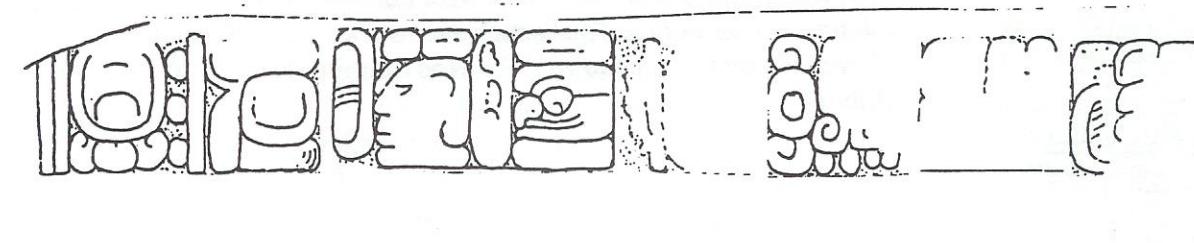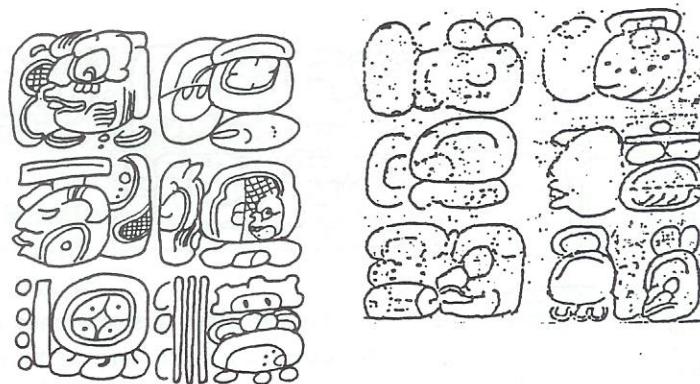
Calakmul Stela 9, El Juleque Stela 1 **9.12.0.0.0** (June 28, 672):
This k'atun is celebrated at many places, amongst them at Calak-
mul. Stela 9 is of interest because it mentions a bearer of the
yukum title and the Calakmul emblem glyph as the agent of the
event. It is clear that this is no foreign reference and it is one of the
arguments in favor of identifying the "Snake emblem" with
Calakmul. The El Juleque Stela was found by Mareike Sattler and
Nikolai at a previously unknown site half way between El Sotz'
and El Peru in the Petén, in an area supposedly under control of
Calakmul. [Venus as Eveningstar at 45.6° elongation in Leo. This
event was recorded on middle panel of the Temple of Inscriptions
at Palenque. Michael Closs was the first scholar to correctly
identify relationship of that text to maximum elongation.]
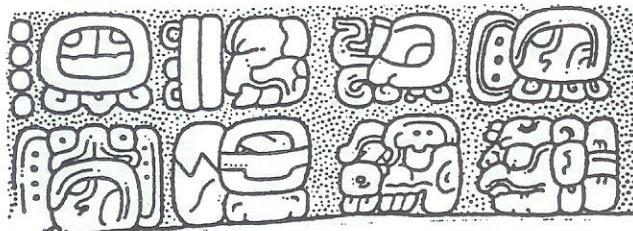
Dos Pilas Hieroglyphic Stairway 4, Step 3 and Hieroglyphic Stairway 2, West, Step 1 **9.12.0.8.3** (Dec. 8, 672): This is a "Star-War" event against Dos Pilas itself. The person against whom this conflict is waged is Balah Kan K'awil. Perhaps alone in the corpus of Maya writing, this reference records what may have been a local defeat. The agent, introduced by the *u kahiy* agency expression, is Shield Skull of Tikal. As Stephen Houston has shown, Shield Skull is not cited as the "divine king" of Tikal, but simply as Mutul-*nal*, "he from the Tikal place." Since Dos Pilas claimed the right to use the *mutul* emblem glyph, Balah Kan K'awil could not accept that the Tikal lords also made use of his exclusive title. There is a second reference to the 9.12.0.8.3 date on the same step from HS 4. A distance number of 5.1.18 counts from 9.12.0.8.3 to the date 9.12.5.10.1. However, here it is not the "Star War" verb which is repeated, but another verb, *xani* Balah Kan K'awil "he travelled, Balah Kan K'awil." The implications of the *xani* verb were pointed out to Nikolai by Werner Nahm: Because of the Tikal attack against Dos Pilas, Balah Kan K'awil was driven out of his home town. [Venus as Morningstar at 45.6° elongation in Libra.]

Dos Pilas Stela 8 **9.12.0.10.11** (Jan. 25, 673): This is the birth date of Dos Pilas Ruler 2. Werner believes that the Long Count (that does not correspond to the 13 Chuwen 19 K'ayab CR date) was manipulated because the real date was during Balah Kan K'awil's exile, when Dos Pilas was occupied by Tikal troops.
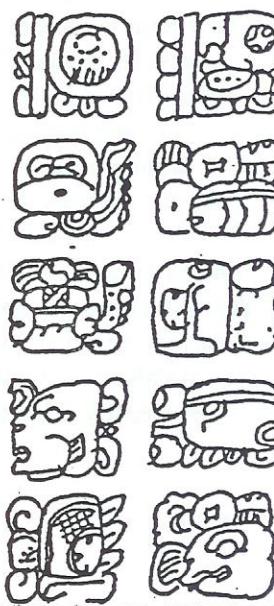
Cancuen panel, 9.12.4.11.1 (Jan. 14, 677): This passage record the seating of the ruler of Cancuen under the authority of the Yukom Kun of Calakmul. It confirms Cancuen's independence of Dos Pilas at this time and its participation in the hegemony of Calakmul.
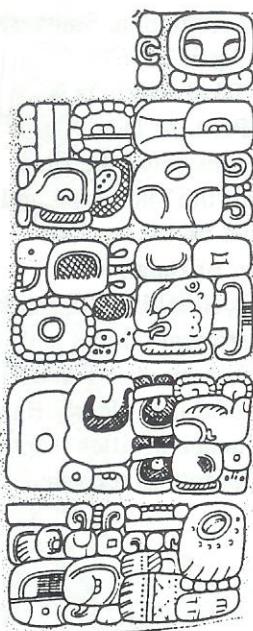
Yaxchilan HS 2 **9.12.5.2.11** (Jul. 23, 677): This text records the capture of Pol Chay Ah Pay Mo', a lord of Bonampak', by Shield-Jaguar.

Dos Pilas Hieroglyphic Stairway 2, West, Step 1 **9.12.5.9.14** (Dec. 13, 677):
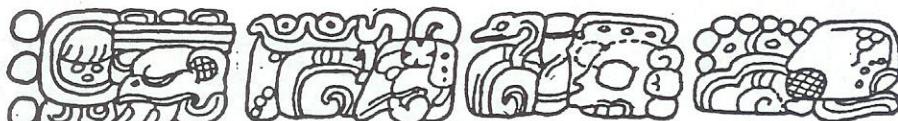
Three war related verbs are combined in this passage. The first is the "Star War" verb, the second was deciphered by David as *puluy* "it was burnt," and the third is a verb read independently by Alfonso Lacadena and Nikolai as *lok'i* "he left." These attacks are directed against Shield Skull of Tikal, who is forced to leave Dos Pilas again. The last two glyphs are not yet understood; they spell an unknown verb and perhaps a toponym of a place where Shield Skull moves after the attack.

Dos Pilas Hieroglyphic Stairway 4, Step III, and Hieroglyphic Stairway 2, West, Step I **9.12.5.10.1** (Dec. 20, 677): Seven days after the previous event, the reconquest of Dos Pilas continues. HS 4 records a Star War against *pulul* by *yukum*, the generic title of Calakmul kings. This affects Shield Jaguar, whose name follows the *lok'i* event. He is driven out of the Dos Pilas area. At the same time, as recorded on HS 2, Balah Kan K'awil is able to return (or, to arrive again, *huli*) to the Dos Pilas place after more then five years in exile. Werner thinks that the last, now destroyed sequence of glyphs on HS 4, Step III also commemorated the arrival of Balah Kan K'awil at the Dos Pilas/ Tamarindito locations. The toponyms are still preserved. The return of Balah Kan K'awil was possible because Calakmul was Dos Pilas' powerful ally and came to help.
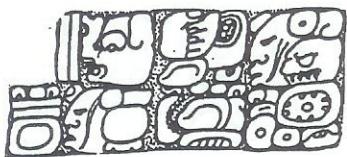
Dos Pilas Hieroglyphic Stairway 4, Step V, Hieroglyphic Stairway 2, W., Step 2; El Peru Altar 1 **9.12.6.16.17** (April 30, 679): The peak event in the Dos Pilas/Calakmul - Tikal conflicts is commemorated at Dos Pilas as well as at El Peru. At Dos Pilas a concluding *hubuy u tok' pakal* event "he brought down the flint shield of" which represents the last mention of the Tikal king and putative brother or half-brother of Balah Kan K'awil, Shield Skull, marks the historical climax and the final victory over Tikal. The agent of this is clearly Balah Kan K'awil of Dos Pilas, who, on Step V, uses a long sequence of titles (captor of *tah mo', ox k'atun ahaw, bate pitzil*). The sequence of events as recorded on
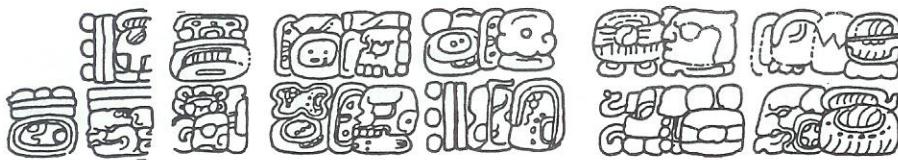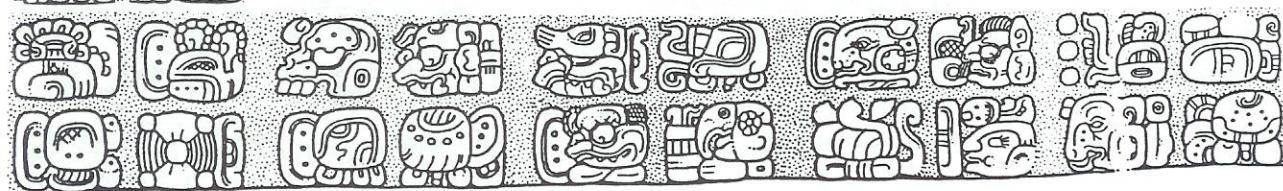
HS 2 is somewhat different. The text also begins with a *hubuy u tok' pakal* statement referring to the downing of the battle standard of Shield Skull, but proceeds with a reference to the caching of bones of thirteen *tzuk* "divisions" of *mutul nal*, "Tikal place." Is this a metaphor for a huge military defeat of Tikal? The text ends with the mention of Balah Kan K'awil as the actor.

The El Peru text is of greatest significance because it talks about the arrival (*huli*) of a female from Calakmul. That the arrival occurred at the same date as the climax of the Tikal wars cannot be coincidence. Simon and Nikolai suggest that this was an intentional act by Calakmul to consolidate its power at the same time Dos Pilas reestablished its power in the south.

The date of this event fell exactly one k'atun after Shield-Skull's visit to Palenque. The exactness of the date seems unlikely to have been coincidental. The Calakmul-Dos Pilas lord may well have planned it as an example to other erstwhile enemies. [Venus as Morningstar was at 45.2° of elongation in Pisces.]

Tortuguero Wooden box **9.12.6.17.18** (May 21, 679): This is the death of Balam Ahaw. Matt Looper (*Texas Note 11*) realized that this passage reads *ma ilah*, "he was not seen" and that on the next day "he entered the road" *och bih*. He died twenty days after Nu-Bak-Chak died at Dos Pilas.

Site Q Glyphic Panel A **9.12.8.12.4** (Jan. 16, 681): This is the death of an otherwise unknown person.
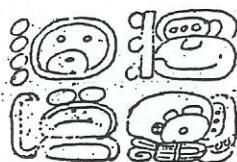
Site Q Glyphic Panel A **9.12.8.13.0** (Feb. 1, 681) The event is the "second" (*u ka-tal*) "dance" (*ak'otah*). The text certainly continued on another panel with the dance instrument and the name of the agent.
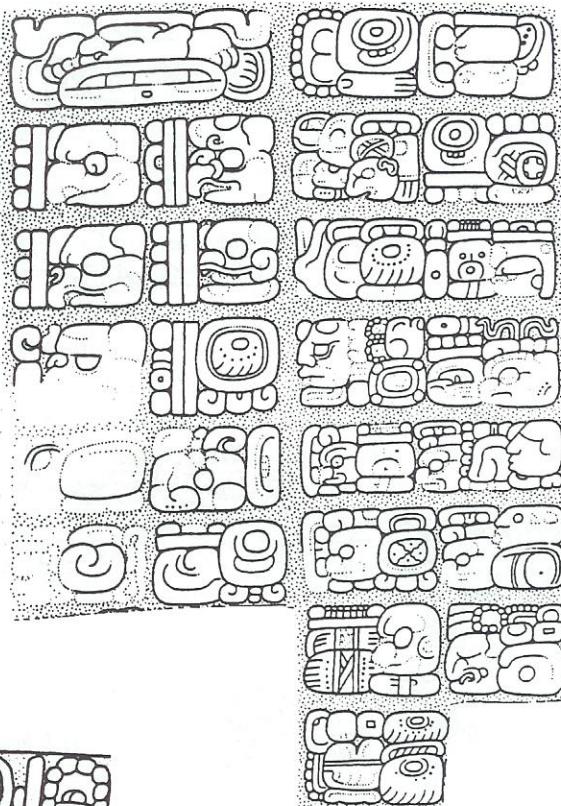
Yaxchilan **9.12.8.14.1** (Feb 22, 681):
These three texts record the capture of the most important prisoner in Shield-Jaguar's life, if the number of times he is mentioned can be taken as evidence of his importance. His name is Ah-Nik and he was the *yahawte* of a lord named K'ach'-Kuy who was a lord of a site called Man. This place has not been identified on the ground, but the wife of Piedras Negras Ruler 3 came from the same place. She was born about six years before this capture.
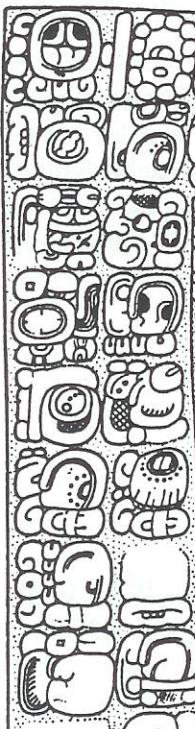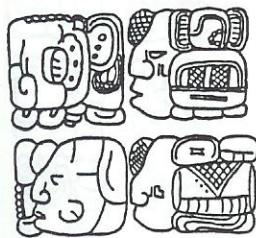
This lintel from the Piedras Negras region records a *kohal* headdress event for PN Ruler 2. The text says that he did this action because of a person who was a *yabak* of the subordinate of the Yukom of Calakmul. This is evidence that Piedras Negras was an ally of Calakmul. If Shield-Jaguar captured a lord from the hometown of a wife of the Piedras Negras king, then it appears that Yaxchilan and Piedras Negras were on opposite sides of the political alignments at this time.,

Yaxchilan HS3:
9.12.9.8.1 (Oct. 20, 681): This is the accession phrase for Shield-Jaguar, although his name has not survived.
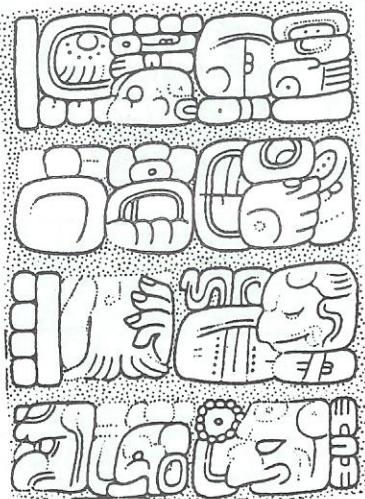
Tikal T1, L3 **9.12.9.17.16** (May 3, 682): This records the accession of Hasaw-Kan-K'awil, also known as Ruler A. He acceded into the *chaktelel* office that is associated with warfare.
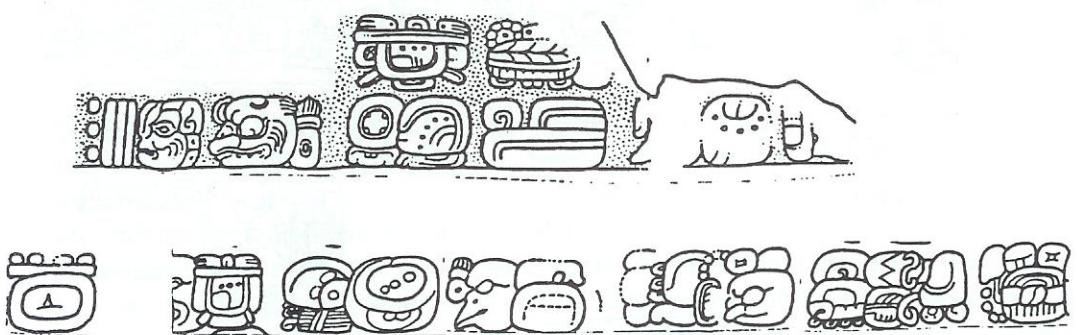
Dos Pilas Hieroglyphic Stairway 4, Step II, Hieroglyphic Stairway 2, West, Step 3 **9.12.10.0.0** (May 10, 682):
The lahuntun-ending is celebrated at Dos Pilas with the building (*patlah*) of the precious-stone stairway (*k'an-tun eb*), and at the same time, with a dance of the Calakmul king in company of (*y-itah*) Balah Kan K'awil.

Cancuen panel **9.12.10.0.0** (May 10, 682): This text records the extensive ceremony that took place at Cancuen on the same date.
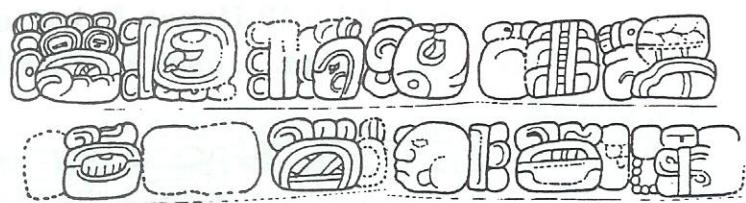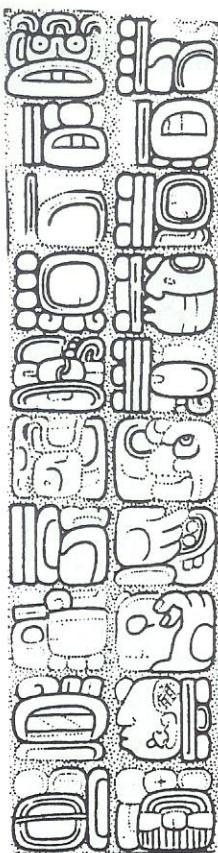
Naranjo St. 24, 29, **9.12.10.5.12** (Aug. 27, 682):
These texts are the most complete record of the arrival of Lady Wak-Kanal-Tzuk from Dos Pilas. The verb is *hul,* "she arrived." In the first part of this complex passage she seems to arrive into the status of being the *hoy ch'ul na,* "companion holy woman." We do not yet understand the meanings of the glyphs following her name, but the last four glyphs in the text to the left repeat the arrival verb as *u bah iwal hul*, "she goes, she arrives," and then we are given the name of a mountain which may be a particular part of Naranjo or perhaps a special temple.

The text continues in the passage above with an event that took place three days later. The action is *och,* "she entered," into a pyramid temple that is in a house of Naranjo. This seems to be the action that reestablishes a royal line at Naranjo after its earlier defeat by Caracol.
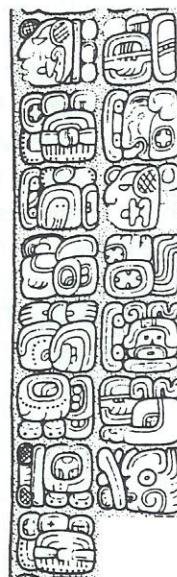
Naranjo St. 24: Early analyses of Naranjo's inscriptions by Joyce Marcus, and by Rathe and Molloy identified Lady Wak-Kanal-Tzuk as a woman from Tikal. In the early 1980's, Peter Mathews realized that this parentage statement recorded the name of Flint-Sky-God K as it appeared on one of the steps at Naranjo. As Houston and Stuart, the epigraphers from the Dos Pilas project, first pointed out, the final two glyphs of his name at Naranjo (the Chuwen title and the *ch'ak*-axe title) also occur in his name on the new hieroglyphic stairs of Naranjo.
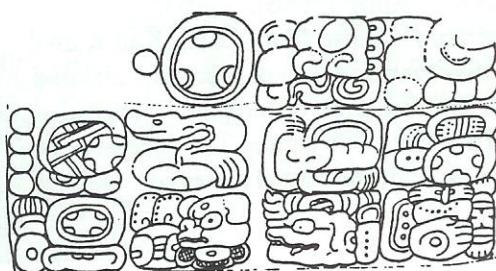
Site Q Panel, Canberra **9.12.10.15.11** (March 14, 683):
The verb is the *lok'i* "he emerged, he came out" verb. The glyphs following the verb are *ti k'an tok kimi* "from the yellow cloud death/skull." This may be the name of the skull from which the young maize god emerges as shown on many polychrome plates. Here, Jaguar Paw of Calakmul is the young maize god. He also is the *y-itah itz'in* of *sak wayas*.

9.12.11.5.18 Hanab-Pakal of Palenque dies
9.12.11.12.10 (Jan. 7, 684) Kan-Balam of Palenque accedes

iwal ak'otah
ti ox ahen

Dos Pilas HS, **9.12.12.11.2** (Dec. 4, 684):
Houston and Mathews in their original analysis of the upper text argued that it recorded the beginning of the third k'atun of reign, and thus they set the date of Flint-Sky-God's accession at 9.10.12.11.2. In his latest book on the history of Dos Pilas, Houston argued that their earlier work was based on a misunderstanding of the signs with the numbers. We agree with his latest dating of the accession as 9.9.12.11.2, which, as he noted places this accession shortly before a dated appearance of Tikal Ruler 22's name on a monument from Altar de Sacrificios. HS 4 indicates that the celebration included a dance with an object called *ox ahen*. The same combination of glyphs appears on an early monument from Piedras Negras.
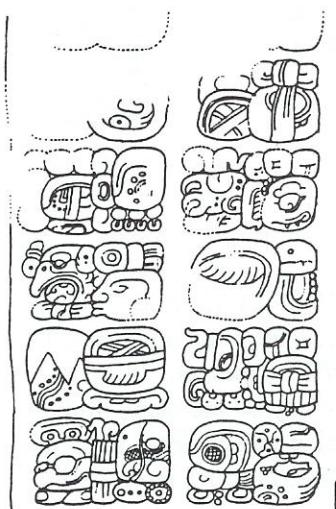
Dos Pilas Panel 7, El Peru Stela 34
9.12.13.17.7 (April 3, 686):
After the wars against Tikal, Balah Kan K'awil records two events that took place at Calakmul itself, including his witnessing of the accession of the new Calakmul ruler, Jaguar Paw, which entailed a visit to this center. The accession is also recorded at El Peru which was one of the vassal states of Calakmul.

9.12.14.13.1 accession of Piedras Negras Ruler 3

Site Q Glyphic Panel 4 **9.12.14.14.14** (Feb. 4, 687):
This short phrase records a ballgame played by Jaguar Paw shortly after his accession. [Venus as Morningstar at 6.6° elongation from the sun. This is possibly a heliacal rising of the Morningstar.]
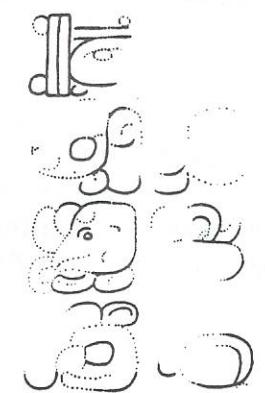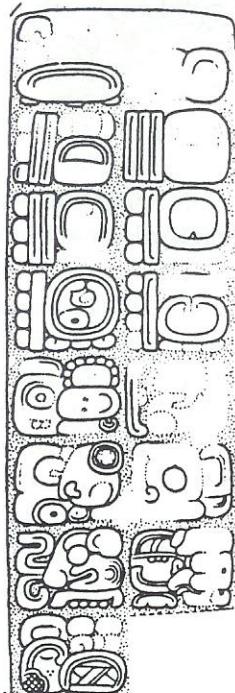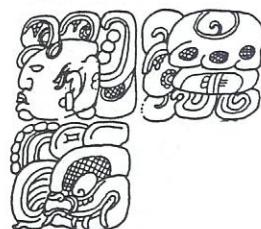
Naranjo St 22, 1 **9.12.15.13.7** (Jan 3, 688):
These and other passages at Naranjo record the birth of the ruler named Butz-Tilwi-Kan-Chak (otherwise known as Smoking-Squirrel). Most epigraphers have been assuming he was the son of Lady Wak-Kanal-Tzuk, but it was Matthew Looper (*Texas Note 32*) who found the parentage statement on Stela 5 that confirmed our assumptions.

Then, last fall, Simon Martin and Nikolai added another critical aspect. In the birth phrase on Stela 1, Butz-Tilwi-Kan-Chak is record as the *yahaw*, "vassal lord of" the Yukom of Calakmul. In January of this year, Linda was able to check the original monument now laying in a field in Melchior. They are correct in their reading of the passage. The ruler of Naranjo explicitly recorded his vassalage to the ruler of Calakmul.

Tonina St , **9.12.16.3.12** (Jun. 16, 688):
This passage records the accession of K'inich Bak Chak of Tonina. He would become very important in Palenque's history. [Venus as Eveningstar at 45.3° elongation in Leo.]
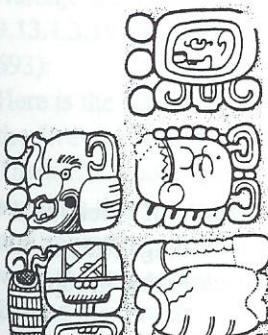
Cancuen Panel **9.12.18.1.6** (April 21, 690):
This text is from a panel which was originally erected at the side of the HS of Cancuen. Cancuen's kings acceded under the aegis of the kings of Calakmul and maintained close ties to Dos Pilas. At some time in their history, the kingdoms of Machaquila and Cancuen were joined, and the Cancuen kings used both emblem glyphs. This short text mentions the birth of Tah Kan Ak, one of the important Cancuen kings.
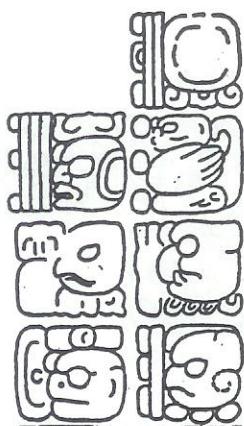
Morales Stela 4
9.12.18.5.0
(July 4, 690)
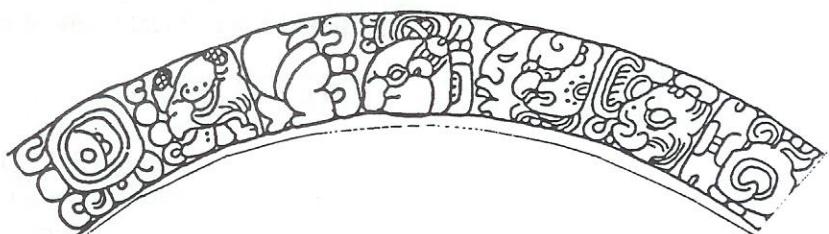
Tikal Altar 5, **9.12.19.12.9** (Nov. 25, 691):
This unknown event occurred to a woman named Na Tunte Kaywak, who
appears here with a toponym associated with Topoxte (Nikolai and Linda
discuss this sequence of history in *Texas Note 65*).
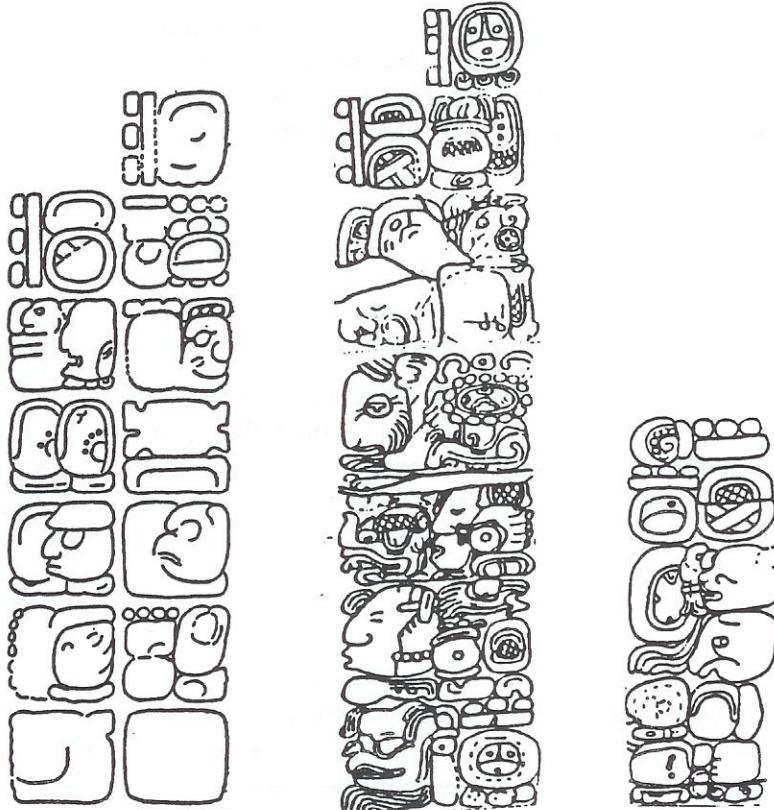
Morales Stela 4, El Peru Stelae **9.13.0.0.0** (March 15, 692):
The 9.13.0.0.0 k'atun ending is celebrated at various places all over the lowlands. Kan-Bahlum of Palenque
dedicated the Group of the Cross on 9.12.19.14.12, only sixty-eight days before this k'atun ending. The
Death's Head recorded the k'atun ending so that we deduce that major ceremonies took place in that group on
the k'atun ending.

El Peru St. 33: The dedication date on this monument is **9.13.0.0.0** although the date of this event was probably earlier. The event is *ch'am k'awil*, "he grasped k'awil." The actor is Mah K'ina Balam, but he completed the event *yichnal*, "in the company of" Yukom, which Nikolai and Barbara MacLeod have identified as a title used by Calakmul lords in reference to their role as "joiners" or alliance makers.

Tikal, St. 30 and Altar 14: **9.13.0.0.0** (Mar. 15, 692): Hasaw-Kan-K'awil erected his first monument on this k'atun ending.
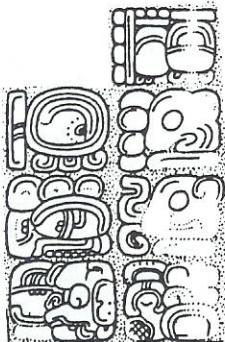
Naranjo St. 22 **9.13.1.3.19** (May 28, 693): Here is the accession of the five-year-old Butz'-Tilwi. His tender age suggests that his mother and appropriate lords were the real power behind his throne.
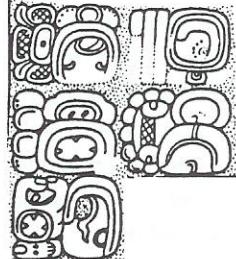
Naranjo St 22 **9.13.1.4.19** (June 17, 693): This is the downing (*hubuy*) of a person named K'inichil-Kab. [Summer solstice, Venus as Eveningstar at 5.5° elongation before inferior conjunction.]

Naranjo St. 22, **9.13.1.9.5** (Sep. 11, 693): This is a puluy or burning event. The glyph after burning is eroded, but it seems to be something like Bay Ahaw. [Venus as Morningstar at 45.7° elongation in Leo]
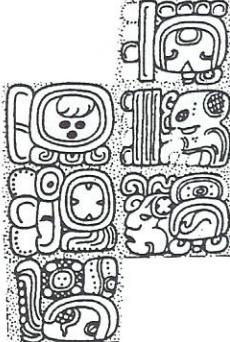
Naranjo St. 22, **9.13.1.13.14** (Dec. 9, 693): This passage records a second *pul*, "burning," event, but the name is difficult to read. The last glyph, *ni pakal tok' kab*, may read "my shield, flint, earth."
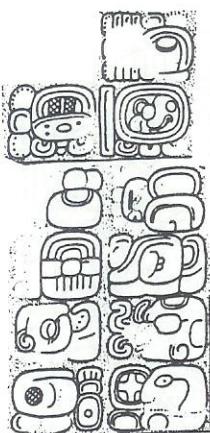
Naranjo St. 22, 9.13.2.16.0 (Jan. 19, 695):

This passage has three sections: the first is *hubuy Ah Mutul,* "he was downed, Ah of Tikal." The second is *chukah Sih K'awil,* "he was captured, Sih-K'awil." The third records *utiy K'an "Rabbit."* Nikolai identified the main sign of this location as the Etz'nab-earred rabbit on the base of Stela 40. This sets a revived Naranjo against Tikal in the on-going wars, and sug- gests that this battle took place within the confines of Naranjo.

Naranjo 9.13.3.0.0 (Feb. 28, 695):

This pe at Naranjo confirms that Lady Wak-Kanal-Tzuk performed in the rituals that ended the tun. This is also the anchor date used by Hasaw-Kan-K'awil at Tikal for Lintel 3 of Temple 1.

Tikal T1, L3, 9.13.3.7.18 (Aug. 5, 695):

This text (at left) begins with the 9.13.3.0.0 anchor date and then moves 7.18 thereafter to 11 Etz'nab 11 Ch'en. The event is *hubuy u tok'-pakal Yich'ak K'ak', Ch'ul Kan Ahaw,* "was downed the flint-shield of Jaguar-Paw of Calakmul." This is exactly the phraseology that Flint-Sky-God K used to record the capture of Nu-Bak-Chak, Hasaw-Kan-K'awil's father sixteen years earlier. Here is the extraction of revenge for that defeat.

The last two glyphs have puzzled us for a long time, partly because they are eroded and partly because the second glyph was unknown. Simon and Nikolai have associated the *bakwah* event with the capture of palanquin that carried the *way* or nawals that guarded each city.

But now we also have an idea about the second glyph. This year we received some small snapshots of a panel looted from Cancuen. After struggling with the photos, Linda was able sketch the text. One of the clauses is to the right. It opens with the date 9.11.4.4.0 (Dec. 9, 656) and the accession phrase associated with the presentation of headdress. The actor is Ch'ab Ahaw Yak' Ak Ahaw. His name is followed by *yichnal,* "in the company of," a long name, Chakte', the glyph from Lintel 3, Ho-K'ix-Ch'u, Yax Ha' Chak. This may be the name of a person or very much more likely, the patron god on the palanquin. This is the connection that Simon and Nikolai have made. Then the Cancuen text continues with *u kahiy,* Yuk Kun Ox Te Tun Chak Te'. This is the name of the contemporary king of Calakmul. This puts Cancuen within the hegemony of Calakmul at this date. The Tikal text suggests that this palanquin god was used at both Cancuen and Calakmul, but that the Calakmul version was captured by Hasaw-Kan-K'awil.
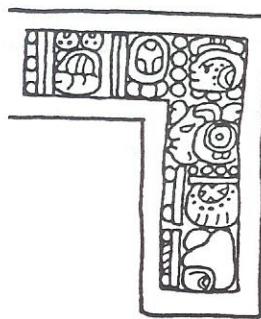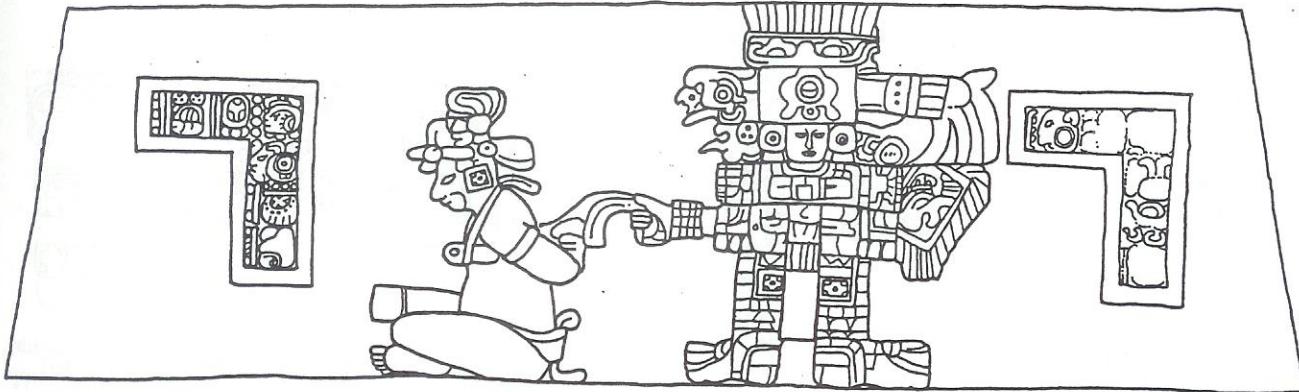
Tikal Structure 5D-57, **9.13.3.8.11** (Aug. 18, 695):
This stucco sculpture from the roof of a building in the central acropolis depicts a prisoner held by a man dressed in the Tlaloc-Venus war costume. We take the victor to be Hasaw-Kan-K'awil, because the date is only thirteen days after the Calakmul capture and the text begins with a dn of 13 days. The person named, however, is not Ich'ak-K'ak'. Rather he is a person named Ah-Bolon-??, Ah Sa (or Sahal), perhaps a noble from one of the enemy contingents. The event is *nawah*, "to be decorated" or "painted." We think this refers to the painting and dressing of captive for sacrificial ritual.

Tikal T1, L3, **9.13.3.9.18** (Sep. 14, 695):
These events took place forty days after the capture of Yich'ak-K'ak', twenty-seven days after the *nawah* event, and exactly thirteen k'atun (260 tuns) after the last *och ha* event on Stela 31. The record of this event is broken into a triplet. The first clause records an event concerning the palanquin on which Hasaw-Kan-K'awil sits. Its name is Nu-Balam-Chaknal, the same as the nawal of Yaxchilan captured by Hanab-Pakal of Palenque. Barbara MacLeod has suggested that the verb reads *kuchtah*, "to carry." Linda as been sceptical of this reading, but when Nikolai and Linda were checking the original lintels in Basel this year, we found a pair of hands holding up an object replacing this verb. This is evidence supporting MacLeod's suggestion. The first statement is that "he was carried in the Nu-Balam-Chaknal."

The second clause records a bloodletting as *tzak ch'u tu ch'am ti yak'il*, "he conjured god with his harvesting of his tongue Ahaw-Kan-K'awil, Holy Lord of Mutul."

The third repetition begins with a verb David Stuart has read as *patwan*, "to make or form." It is followed by *tan kun Mutul*, "in the center of the seat of Mutul." Freidel and Schele in *Forest of Kings* suggested this referred to the dedication of Temple 33, within which Stela 31 was cached. The actor is named as the child of (*u hun tan*) of Lady Jaguar-Throne and child of (*u lot ch'am*) of Nu-Bak-Chak. The mother's name has a *kan-pet-way* glyph that seems to be related to a similar title in the name of K'an-Ak's mother.
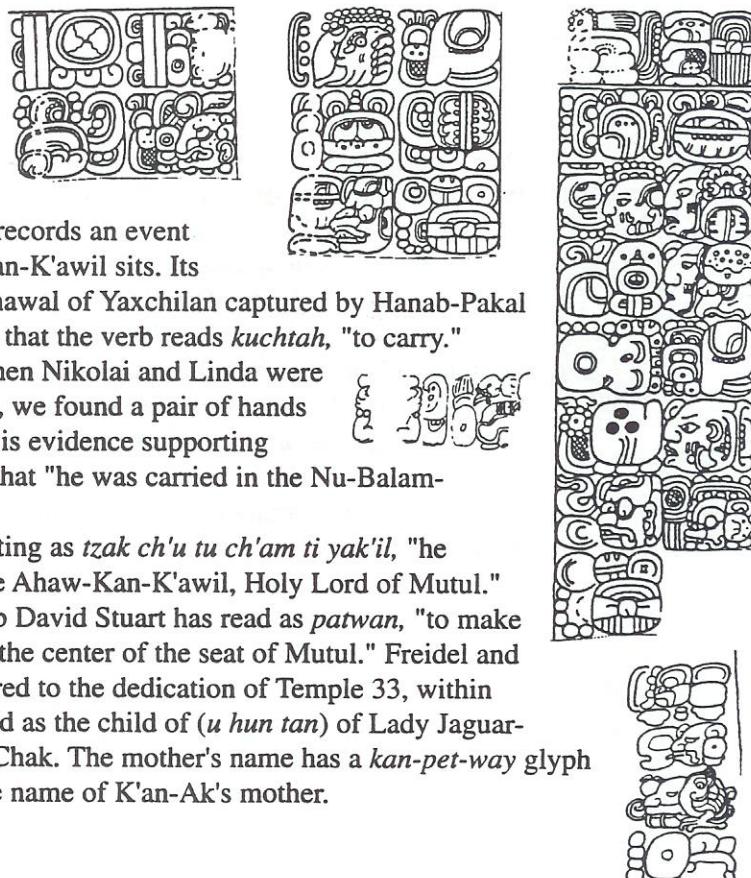
Tikal Bone,
9.13.3.13.15 (Nov. 30, 695):
This bone from Burial 116 depicts an elegantly drawn captive. The large text records a *hubuy*, "downed," event. The captive's name is Ah Koban Ch'a-Balam-Chub. Like an earlier captive mentioned in the Dos Pilas texts, he seems to have been from Coban. This downing was done by a person named "Split-Earth." The same text records another name, Ox-Hate Ixil Ahaw. The lower phrase is more difficult. Schele and Freidel in Forest of Kings took the first glyph to be *u ahaw*, but that is the wrong way to possess *ahaw*. It is clearly something else. The last two glyphs name Split-earth with his emblem glyph. It may be Calakmul.
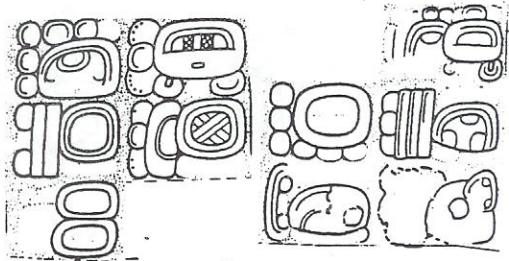
Naranjo Stela 22, **9.13.4.1.13** (Mar. 27, 696) and **9.13.5.4.13** (May 21, 697):
These two events are too eroded to identify, but they occurred in the year after the battle in which the Tikal captive Sih-K'awil was taken. [On the second date, Venus as Morningstar was at 8.3° elongation.]
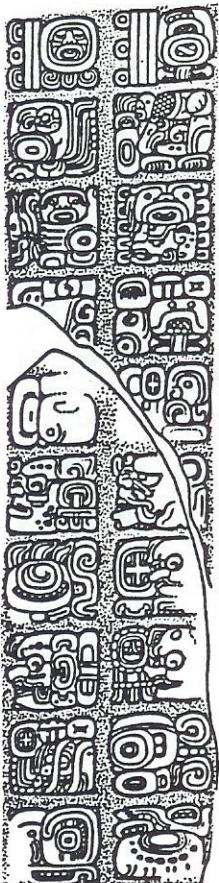
Dos Pilas Stela 8 **9.13.6.2.0** (March 24, 698):
We do not know the date of the death of Balah Kan K'awil. It is obvious that he died before 9.13.6.2.0 because this date marks the *chumwani ti ahawlel* of his successor, Itzam K'awil. Peter Mathews, and later, David Stuart, have shown that this accession takes place *y-ichnal* "in the company" of the paddler gods and a *k'an-tun chak*. The same sequence of gods also appear on Ixlu Altar 1. The accession probably also involves the receiving (*u ch'am-wa*) of certain insignia, like a *xot* (perhaps some kind of ring) and something which Simon interprets as a palanquin. The accession takes place at the Dos Pilas place.
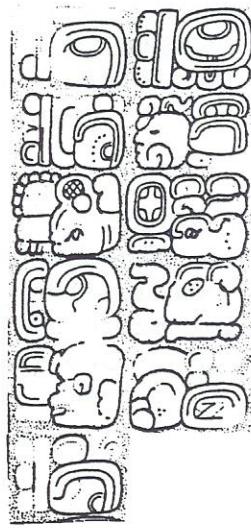
Naranjo St. 22, **9.13.6.10.4** (Sep 4, 698):
This text records the *puluy* or "burning" of some object owned by Itzam-Balam, a lord of Ucanal. That it was not Itzam-Balam that burned seems clear from the fact that he reappears in a ceremony at 9.13.10.0.0 and is shown on the front of this stela.
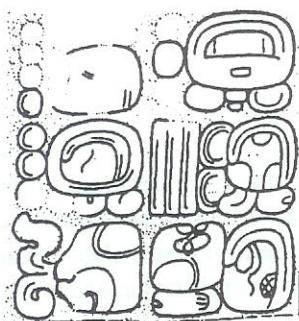
Naranjo St. 22, **9.13.6.14.17** (May 20, 698):
This passage records the *puluy* or "burning" of
K'inchil-Kab. This event appears to be repre-
sented on the ascension stela of Piedras Negras.
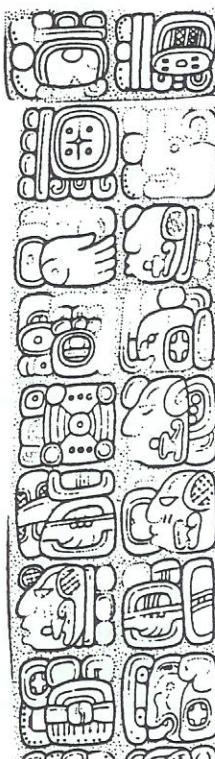
Naranjo St. 24, **9.13.7.3.8** (Apr. 16, 699):
This is an event carried out by Lady Wak-Kanal-Tzuk rather
than her son, Butz'-Tilwi. On the front of the monument she is
shown standing on K'inchil-Kab, who must not have died in
the earlier *puluy* event. The text on the front of the stela reads *ubah ti xak'*, "she goes standing on
him." The repetition on the back is not so easily read. There are at least two phrases and the second
one is *u bah an nah ta ?? kan*. In 16th century Tzotzil *an* is "to kindle, burn (coals)." Perhaps this is
another burning ceremony involving a structure like Karl Taube's scaffold sacrifice.

Tonina panel, **9.13.7.9.0** (Aug. 6, 699):
This is the dedication of the ballcourt at Tonina by K'inich Baknal-
Chak. The ballcourt is called the *Wuk-Ek'-K'anal Ox-Ahal ???*, "the
Seven-Black-Yellow-Three Defeats Ballcourt."
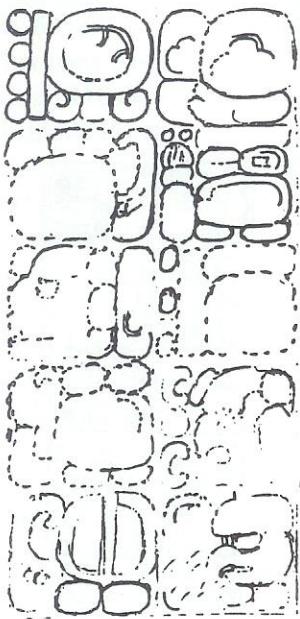
Motul de San Jose Stela 3 **9.13.9.1.17** (March 5, 701):
This text is important in discussing Peten politics because it connects the accession of the local lord of Motul de San Jose in some way with the name of Hasaw Kan K'awil of Tikal. Unfortunately, the nature of the relation is not clear because the critical glyphs are too eroded. It is possible that the Motul lord accedes under the aegis of the Hasaw Kan K'awil. If correct, this proves that Motul was in the political sphere of Tikal. Several hundred years earlier, Bejucal, a site in the vicinity of Motul de San José which shares the same emblem glyph, probably refers to Smoking Frog as its overlord. Motul thus has a long history of being in the Tikal sphere. However, there is evidence that at some time later it was attacked by Dos Pilas and became part of the Calakmul sphere.
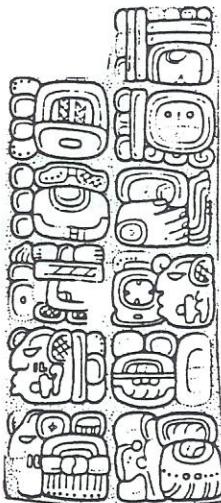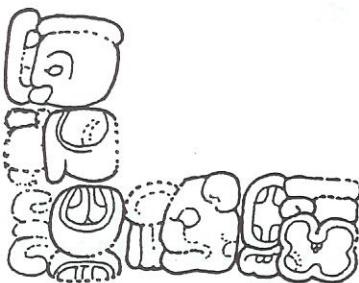
Naranjo St. 22, **9.13.10.0.0** (Jan. 22, 702):
These passages record some of the activities on the lahuntun ending. Here is another sacrificial ritual with the captive, Itzam-Balam of Ucanal. The passage below shows that Lady Wak-Kanal-Tzuk, as well as her son, acted on that day.

Palenque, 9.13.10.1.5 Kan-Balam dies
Palenque 9.13.10.6.8 K'an-Hok'-Chitam accedes.

Dos Pilas Stela 8 **9.13.10.11.12** (Sep. 11, 702):
This is only the final part of a sentence. The event was described on some part of Stela 8 which is now missing. The name is that of a king from Calakmul.

Tikal Altar 5 **9.13.11.6.7** (May 24, 703):
This passage records the death (*kimi*) of Lady
Tunte Kaywak of Topoxte.
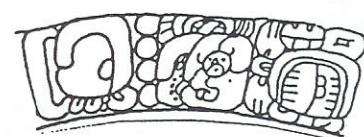
The information about Lady Tunte Kaywak's death continues with *k'ubah*, a verb that means to "deliver, deposit, and dedicate." The object used seem to be three pronged flints, or perhaps the kinds of flints and obsidian fragments that were regularly placed atop tombs in the Peten. The threefold repetition records that "she was buried" (*mukah*) in the Nine Ahaw Structure. Finally, we are told that this action was done by a man named Kan-Sak-Wayas Mas Ahaw. Nikolai and Linda have argued in *Texas Note 60* that this man was a lord from the Calakmul.

Naranjo St. 21, **9.13.14.4.2** (Oct. 10, 706):
This is an undeciphered action concerning
a house.
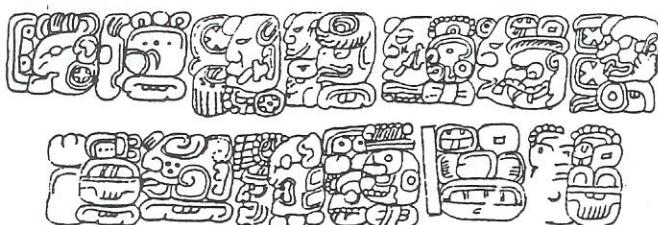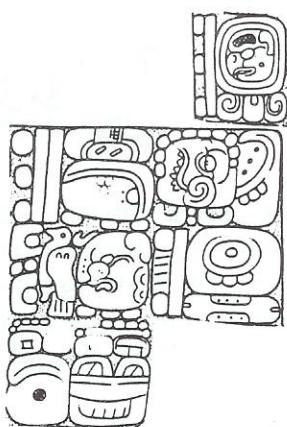
Yaxchilan, L30, St. 10, **9.13.17.12.10** (Aug. 23, 709):
Yaxun-Balam, also known as Bird-Jaguar, was born at
Yaxchilan on this date. For the story of the wars and alli-
ances, his birth is important because he was the son of a
woman from Calakmul. This means that Itzam-Balam had
concluded an alliance with that site by this time and sealed it through his marriage with a
lady of that city's royal family. If his capture of a man from Man, the site that provided a
wife for Ruler 3 of Piedras Negras, can be taken to signal hostility between Yaxchilan and
Piedras Negras, then his marriage to a woman of Calakmul suggests he changed his
alliance. Piedras Negras was already an ally of Calakmul. This may explain why Yaxun-
Balam played such an important role in Piedras Negras affairs in the years just before and
after he became king. Piedras Negras may have been an ally in his quest to take the throne
of his father.

Site Q panels, **9.13.18.7.2** (May 2, 710):
This undeciphered event concerns an object called *lakam*. We are not sure of what it is, but there is an earlier Tonina event that may involve the same kind of object. [Jupiter and Saturn still in conjunction; Venus at 6.2° before heliacal rising of Eveningstar.]
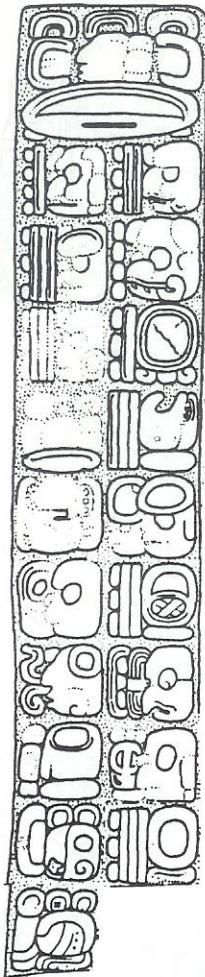
Naranjo St. 23, **9.13.18.4.18** (Mar. 19, 710): This passage records *puluy u kun*, "it burned its seat." A second verb appears to read, *mach'*, "to flatten." We suspect this is what happens to a captive when he is stood upon by his captor. The victim is a man who is a Yaxha Ahaw.

The second part of the text begins with the verb *lok'i*, "was forced out or brought out." The person who had this done to them was *yitah yatan Na Mutul Ahaw*, "the companion of, the wife of Lady Mutul Lord." Presumably this was the wife of the Yaxha lord, who was forced out by Butz-Tilwi-Kan-Chak's victory at Yaxha. Schele and Freidel in *Forest of Kings,* identified this woman as the wife of Butz'-Tilwi and as a woman from Dos Pilas. The identification of the lok'i verb changes the evidence considerably. This woman was forced out, and therefore she was probably from an enemy polity. That makes it more likely that she was from Tikal and that she was the wife of the Yaxha lord. [Saturn and Jupiter at stationary points in conjunction in Cancer; Venus at Superior Conjuction]


Site Q panels, **9.13.18.10.4** (July 3, 710): This is a scattering rite of some sort, but the name of the agent does not survive. [Same conjunction, but the planets were spread a little more apart.]


Naranjo St. 23, **9.13.18.9.15** (Jun. 24, 710): This event is related to the mountaining events we have already seen at Dos Pilas and Tortuguero. Here the text reads "were opened his bones and his skull, Yax-Bolon-??, Yaxha Ahaw," (*pasah u bak u hol bak*). Then the text continues with "he scattered at the island (*peten*)." Nikolai suggested this is a reference to Topoxte. And when Linda visited Topoxte in January, 1994, the guards and a local pension owner told her and her companions that the archaeologists who have been working at Topoxte recently found huge pots set directly on plaza floors around the edges of the island. These pots were full of bones. Perhaps this passages refers either to the act of depositing bones there, or more likely, to Butz'-Tilwi's desecrating the bones of his enemy by throwing them out of the pots.

The text ends with an *u tz'akwa* verb, "he replaced it," then an unreadable section followed by Butz'-Tilwi's name. The text ends with *yitah*, then south, unknown glyph, north(?) and the same unknown glyph repeated, and a final unreadable glyph. We suspect this passage names the patron gods or wayob who accompanied the king during this ritual. [Spectacular conjuction of Jupiter, Saturn, Venus, Mars, and Mercury between Leo and Cancer.]

Naranjo St. 23, **9.13.19.6.3** (Apr. 8, 711): This passage includes two events, one which seems to involve the flat-hand verb and the placing of an object by the doing of Butz'-Tilwi. The repetition has an unreadable verb followed by *u tok'-pakal Ah Sah*, "the flint-shield of He of Naranjo." Finally, we are told this happened at Sak Nab, which is the other brackish lake next to Yaxha. We suspect this event was the planting of Naranjo's war banners at Yaxha as a ritual of victory. [Saturn and Jupiter at stationary points in Leo; Venus as Morningstar at 46.1° between Pisces and Aquarius.]
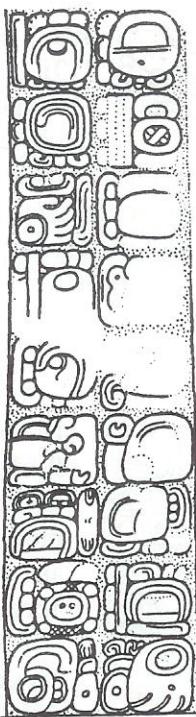
Tonina panel, **9.13.19.13.3** (Aug. 26, 711): This is the famous Tonina panel that records K'an-Hok'-Chitam of Palenque as a captive. The current Tonina king was K'inich Baknal-Chak.
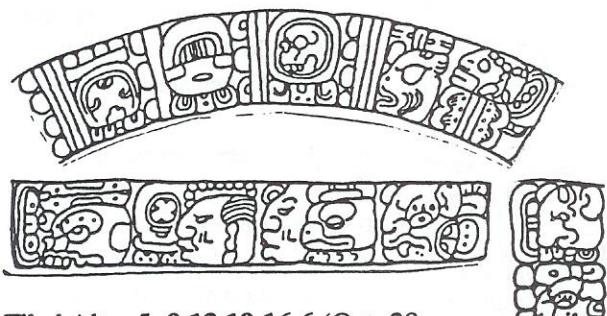
Tikal Altar 5, **9.13.19.16.6** (Oct. 28, 711): Eight years after the death of Lady Tunte-Kaywak and only 203 days after Butz'-Tilwi did something with his Tok-pakal at Sak Nab, an event took place in which the bones and skull of a woman were opened (*pasah*). The woman's name is not the same as Lady Tunte-Kaywak, but we find it hard to understand why they would have talked about the death of one woman and the bones of another. We suspect the names refer to the same woman. The agent of this action is a Site Q lord named Kan-Sak-Wayas (see *Texas Note 60* for the reading). There are two figures in the scene: one is this man and we think the other is Hasaw-Kan-K'awil.
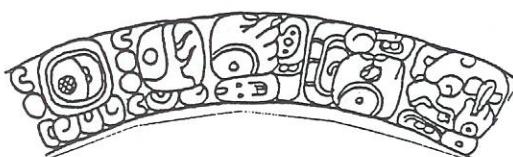
Tikal Altar 5, **9.13.19.16.9** (Oct. 31, 711): This took place three days after the opening of the bones. The event is *huli yichnal Chakte'*, "he arrived in the company of the Chakte'." Furthermore this arrival is only eleven days before the period ending. Since there are two figures shown in the scene on this altar and since the opening of the bones is clearly the depicted event, we think that it took place three days journey away from Tikal. We suggest that it occurred at Topoxte', that it involved recovery of the bones of an important woman from a place that had just been conquered, and that Hasaw-Kan-K'awil required an escort from Calakmul to make the journey. The altar text then leads to the period ending events on the stela itself.
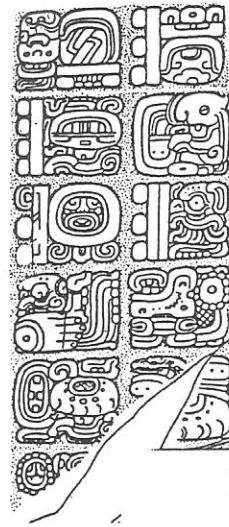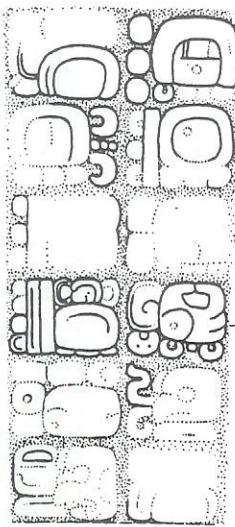
Naranjo Stela 23, 30, **9.14.0.0.0** (Dec. 1, 711): Butz'-Tilwi cerebrated the end of the 14th k'atun also. One text evokes the Paddlers and the other includes an *och* event, "entered into" some building.

Dos Pilas St. 8, **9.14.0.0.0** (Dec. 1, 711): Ruler 2 (Itz-K'awil) celebrated the k'atun ending with a scattering rite at Dos Pilas.


Tikal St. 16, **9.14.0.0.0** (Dec. 1, 711): At Tikal, Hasaw-Kan-K'awil completed the 14th k'atun in this first twin-pyramid complex, which is named in the glyph following the flathand verb. This k'atun ending was also recorded at Copan. There and on this monument the imagery is related to Venus. As Floyd Lounsbury first noted, this date corresponded to the heliacal rising of the Venus as Eveningstar.
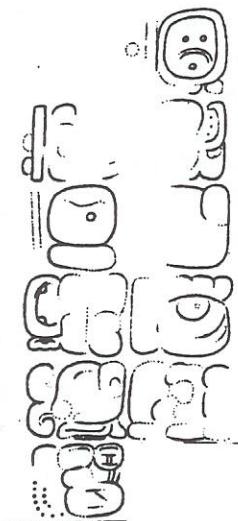
Naranjo St. 2, **9.14.0.10.0** (Jun. 18, 712): This event involved Shield-Jaguar of Ucanal and something he did in the company of Butz'-Tilwi. [This was the summer solstice; Venus as Eveningstar was at 45.5° elongation in Pisces. Venus was in conjunction with Saturn and with Mars and Jupiter in close alignment.]
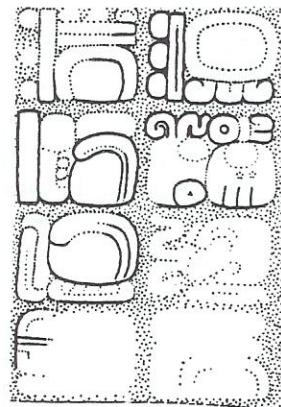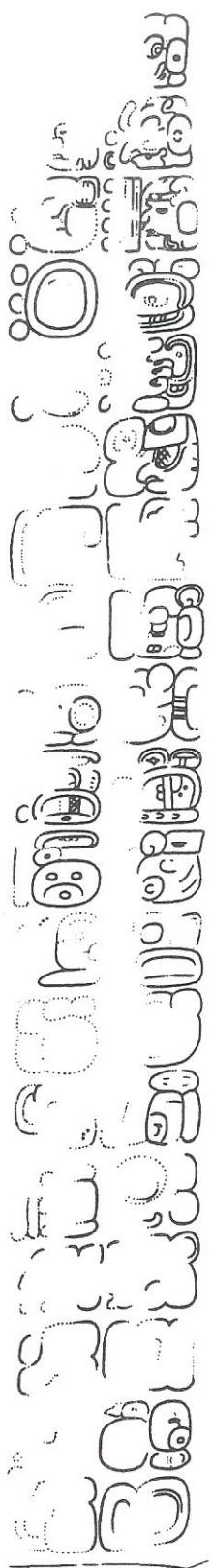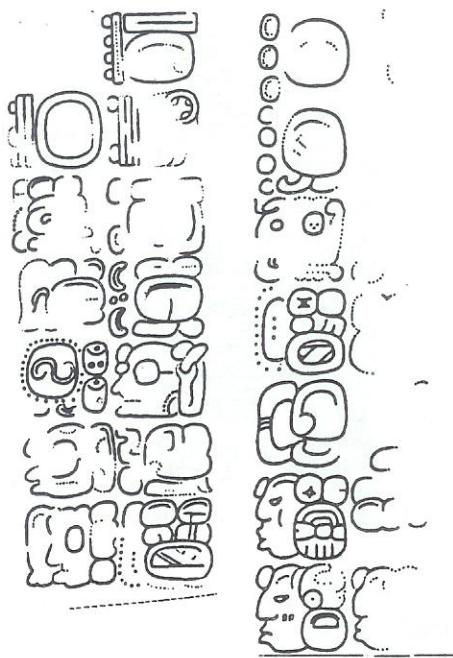
Naranjo St. 30, 3 **9.14.1.2.19**; **9.14.1.3.19** (Jan. 23, 713; Feb 12, 713): These three passages record the ceremonies associated with the first k'atun anniversary of Butz'-Tilwi's accession. Unfortunately these texts are very badly eroded and do not preserve a lot of information. Above, a woman of Mutul is named, but it does not seem to be Lady Wak-Kanal-Tzuk. Perhaps she is Butz'-Tilwi's wife. In the text to the left we have a dance mentioned but we cannot tell what kind it was.

Naranjo St. 30 **9.14.2.17.7** (Nov. 2, 714): There are several events recorded on St. 30 between the anniversary and this event, but the stone is too badly eroded to be read. Here, however, the event is *puluy Sak Nab,* "it burned, Sak Nab," by the doing of Butz'-Tilwi. Apparently, he burned the place he had captured earlier.
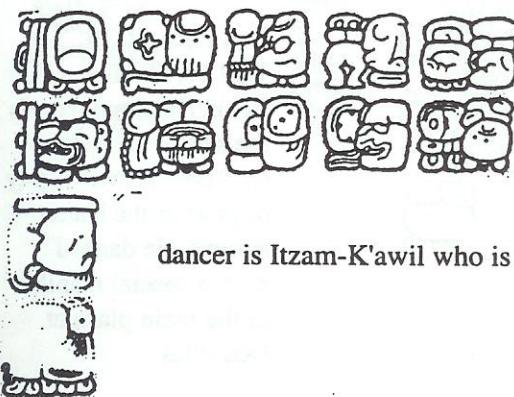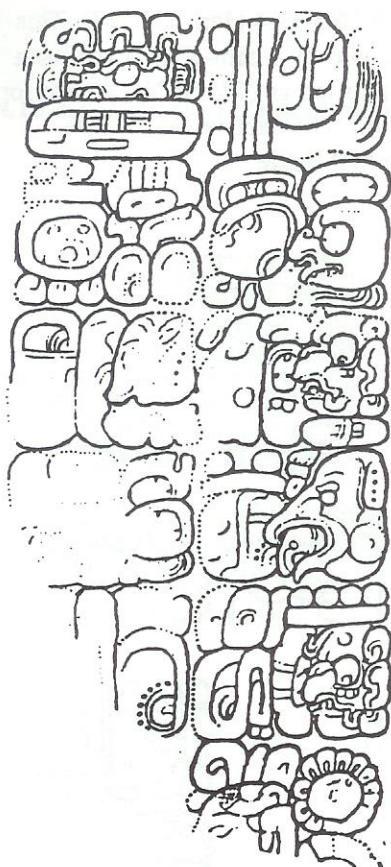
9.14.3.0.0 (Nov. 15, 714): This text records the oxtun ending that was also celebrated by Butz'-Tilwi and Lady Wak-Kanal at Naranjo. Here the agent is named as *yunen*. "the child of," Yax-Bolon-Chak, the Yaxha lord whose bones were scattered at Topoxte by Butz'-Tilwi a little over a year earlier.
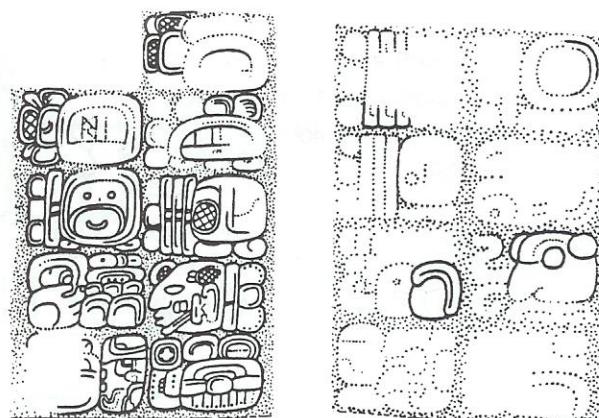
Naranjo St 29, 30, **9.14.3.0.0** (Nov. 15, 714): These two passages record that both Butz'-Tilwi and his mother acted on the ox-tun ending. She remained unusually powerful as a woman during her entire life.

Bonampak column, **9.14.3.8.4** (Apr. 28, 715): This looted column records the end, *tzutzah*, of 13 tuns, by a lord of Bonampak'. However, he calls himself the *yahaw* or "vassal lord" of Baknal-Chak of Tonina. Apparently this Tonina lord attacked and defeated Bonampak' as well as Palenque.

Dos Pilas St. 11, **9.14.5.0.0** (Nov. 4, 716): This period ending includes a dance with a manikin-scepter. The dancer *yitah u kan K'in-Balam,* "companion of the guardian of the Sun-Jaguar. The "guardian of the Sun-Jaguar is a title that usual occurs in Ruler 3's name. We also have identified this object as a war palanquin captured from Tikal. We think the dancer is Itzam-K'awil who is acknowledging his companionship to his successor.
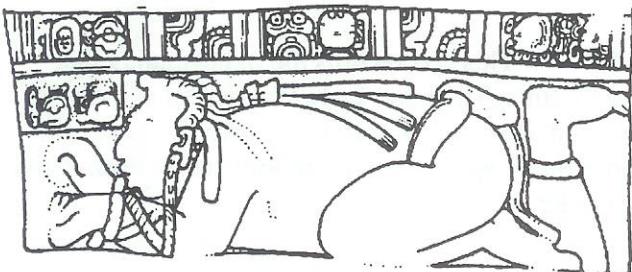
Dos Pilas St. 14, 9.14.5.3.14 (Jan. 17, 717): This text records a star-war by Itzam-K'awil against a place Houston identified as Nikteil-Na, a term for "community house." The captive below was probably taken in that battle.

El Peru, Alt. 1, **9.14.9.9.14** (Aprl 26, 721): This is an undeciphered event that happened to a royal lady of Calakmul who was apparently married to the ruler of El Peru.
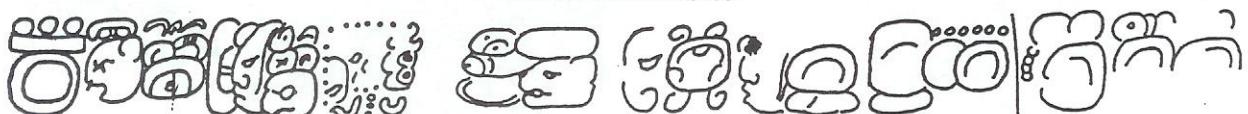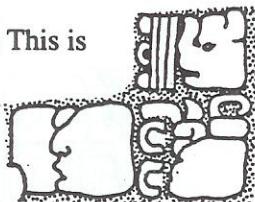
Dos Pilas, St. 15 and Nim Li Punit St., 9.14.10.0.0 (Oct. 9, 721): At Dos Pilas, several rituals are recorded including a scattering in a plaza by Itzam-K'awil and a *nawah* or "adorn" event that seems to involve the throne of GI-K'awil, the two patron gods of Seibal. This event occured at Seibal according to the text. Then a *lakamtun* or "stela" was erected for the same god, perhaps at Tamarindito. This text suggests that important period ending rituals took place throughout the hegemony ruled from Dos Pilas.

At Nim Li Punit, a ston of the war serpent, Waxaklahun Ubah Kan, was set and dedicated by the harvest (*u bah u ch'am*) of a royal woman.

This same lahun tun is celebrated on Copan Stela F.
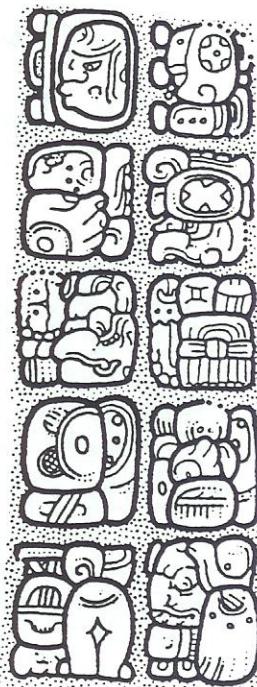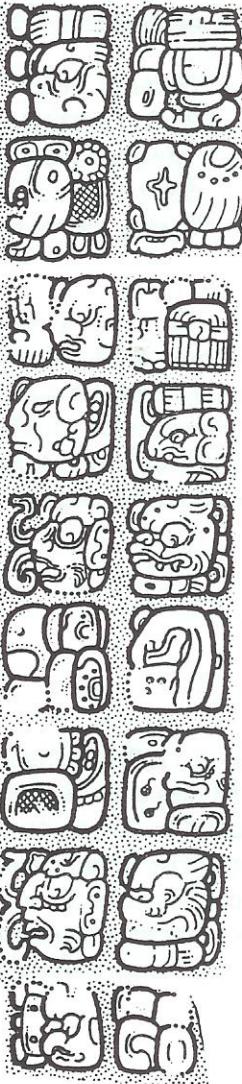
Dos Pilas St. 14, **9.14.10.4.0** (Dec. 28, 721): This text records the setting of a stone by Itzam-K'awil eighty days after the k'atun ending. He danced with a special manikin in the main plaza at Dos Pilas.

**9.14.10.4.2 (Dec. 30, 721) accession of Akul Anab of Palenque**

9.14.11.12.10 (Jun. 15, 723) Palenque, TSlaves: This records the accession of a sahal who served as the first ahaw of Palenque. He was also apparently a war leader.
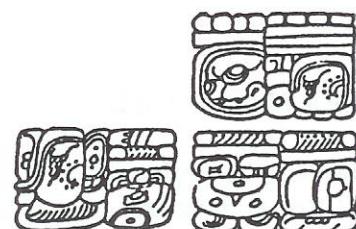

9.14.11.17.6 (Sep. 15, 723) Palenque, TSlaves: this event records the capture of a man named Tah-Chih, Ah Law Ahaw, Ah Tan? Kun.

Tikal MT 38, **9.14.11.17.13** (Sep. 12, 723): This text accompanies the canoe scenes from Hasaw-Kan-K'awil's tomb. The verb is star over earth and the actors, Wak Ahaw and Wak Ixnal, were identified long ago as names for the Paddlers, although there is also a good possibility that they can also refer to the animals carried in the Homul Dancer's backrack. The text ends with what may be a location and, Mutul, the main sign of the eg. The second text begins with the verb for "he canoed" and named the king as Hasaw-Kuchwan. The astronomy of this day is unclear except that it is a perfect replay of the Creation day adjusted for precession from about 1000 B.C., when Linda believes the myth was connected to celestial patterns. [Venus as Eveningstar at 45.2° elongation in Libra; Saturn at its stationary point transited at sunset in Sagittarius]
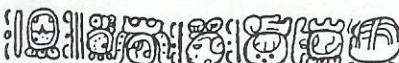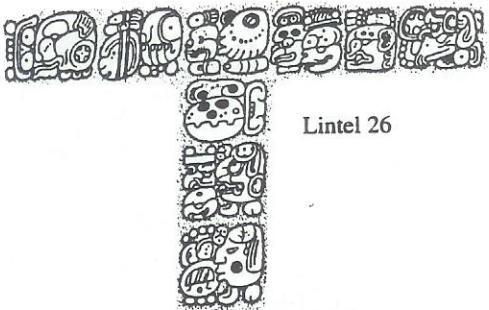
Lintel 26

Yaxchilan L26; Site R Lintels 1 and 2,
9.14.13.10.8 (Apr. 19, 725):
The scene on Lintel 26 of Yaxchilan
shows Lady K'abal-Xok with Itzam-
Balam. He is dressed in battle costume as
she hands him his shield, and jaguar
helmet. The event is recorded with a
couplet beginning with *ubah ti hok' yel ti xikbal*, "he
goes coming out grabbing the xikbal." Unfortunately
we have not idea what a *xikbal* or *xik balel* is.
Yukatek has *xik* as "to break apart," "to go," and "to
clay drums that appear in the two Site R lintels, but this
have the same jaguar paw / throne glyph that appears
the workbook) and at Naranjo (next page).

Site R Lintel 1

cover pots." Perhaps it is a reference to the
solution doesn't "click" for us. Finally, we
as a preaccession event at Site Q (earlier in

However the Site R lintels give us really important data about the nature of the event and its participants.
On Lintel 1 (above, right), Itzam-Balam stands on the left wearing the same costume as on Lintel 26 and
holding the same object. The king is identified by his frontal posture and the name phrase next to him. A
sahal named Ah Kamo' stands next to him holding a ceramic drum and its beater. He too is dressed in war
costume.

Lintel 2 (below) shows Yaxun-Balam on the right dressed in battle gear, wearing a mask, and holding a
shield and three pronged-ax. His companion, who is named in the last four glyphs of the text, holds the same
kind of drum and beater. At the time, Yaxun-
Balam was fifteen years old. The text on Lintel 2
reads *yalah u k'oh*, "it speaks the mask of,"
Yaxun-Balam. This ritual appears to involve
dancing, drumming, trancing, and battle, if the
costume signal that they are going to war. This is a
local rite and the lintels of Site R were commissioned
during Yaxun-Balam's reign so that they have his spin
on the events. Nevertheless, Itzam-Balam also re-
ferred to the ritual in a building he commissioned for
his local wife in a strategy that Schele and Freidel
(*Forest of Kings*) interpreted as his negotiation with
his local wife for support for the son born of the
woman from Calakmul. With what we know of
Classic period politics, this was an even more impor-
tant issue than we thought. Enemies of Calakmul did
not fare well. We suspect it was more dangerous for
Itzam-Balam to offend his foreign in-laws than his
local ones.

Site R Lintel 2

9.14.13.11.2 (May 3, 725) Palenque T.Slaves: This text record a *ch'ak* event against a place called K'inlah by Chak-Zutz', who is entitled *yahaw k'ak'*, "lord of fire."
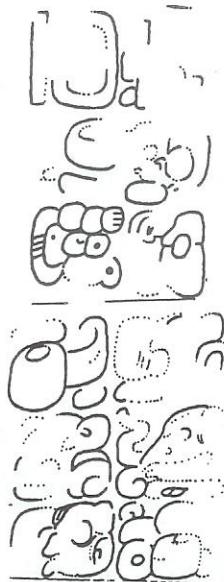

Naranjo 18, **9.14.13.16.4** (Aug 13, 725): The verb in this passage is no longer readable, but it records the name of a new ruler first identified by Simon Martin. The name is Yax-May-Kan-Chak. He also identified him as a captive in the Tikal monuments of a slightly later time.
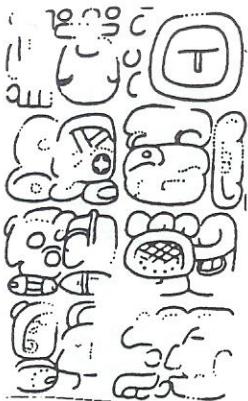
Naranjo 18, **9.14.14.7.2** (Feb 7, 726): This couplet includes an actor named Ch'ok-Tzuk who undergoes the "jaguar paw-throne" event we have seen at Site Q and Yaxchilan. The same day saw the erection of a stela.

Naranjo Stela 18, **9.14.14.10.14** (Apr. 20, 726): This event appears to be *hul ti kok Ch'ok-Tzuk*, "he arrived at Kok Ch'ok-Tzuk." The passage concludes with *u kahiy* and the name of the ruler, presumably Yax-May-Kan-Chak.
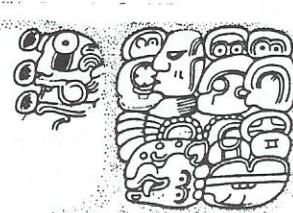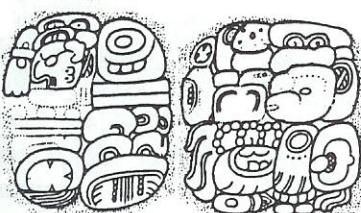

Yaxchilan, Lintel 26 **9.14.14.13.17** (Jun. 22, 726): This is the dedication of Structure 23, built by Itzam-Balam to honor his wife, Lady K'abal-Xok, and support the primacy of his son by a woman of Calakmul. Lady K'abal-Xok is named the *Hoy Na*, "Companion Woman" of Itzam-Balam in the final clause, and the house is identified as the kab kun, or his "earth seat." The dedication is written *och butz'*, "entered smoke." Her name followed a *bal ilan* that appears to record that she witnessed the dedication rite.

Naranjo St. 21, **9.14.15.0.0** (Sep. 13, 726):
This is a period ending monument presumably of Yax-May-Kan-Chak.
However the right side appears to record Lady Wak-Kanal-Tzuk's name with
her father's name. This stela shows that she was still alive and participating
in rituals at Naranjo after her son had died. Houston (*Hieroglyphs and
History at Dos Pilas*) dated her death as about the same time as Ruler 3 of
Dos Pilas, circa 9.15.9.16.12.
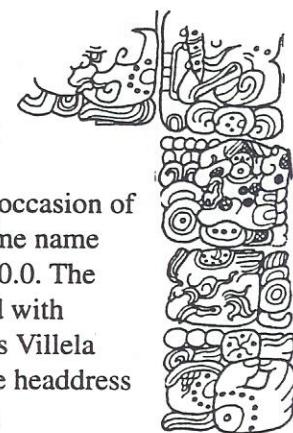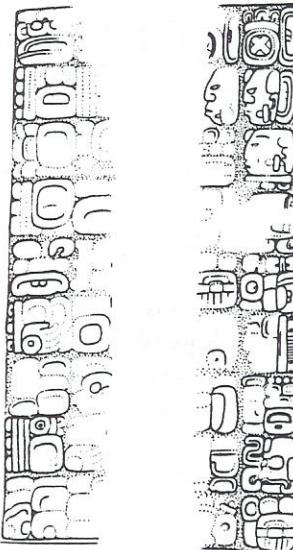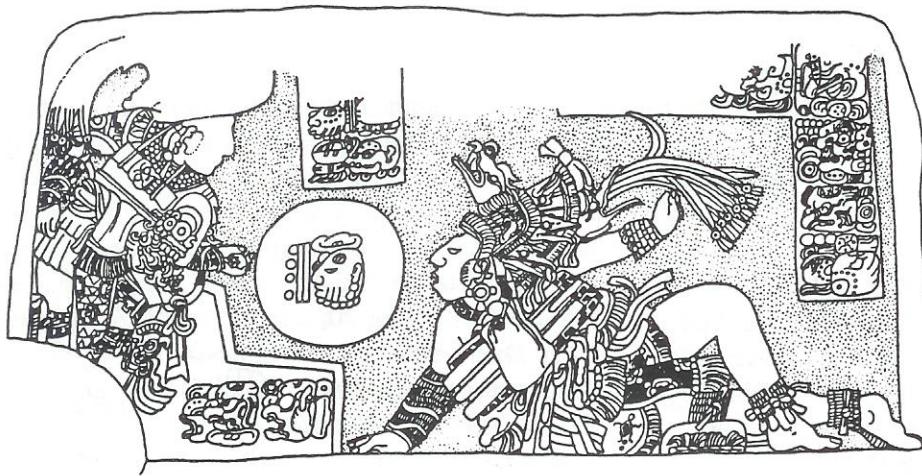
Site Q Lintels **9.14.15.0.0** (Sep. 23, 726): This panel records a ballgame on the occasion of
the 15th k'atun ending. The protagonist is named Kan-Sak-Wayas. Since this same name
occurs on Tikal Altar 5, we have placed the "5 tuns lacking" notation on 9.14.15.0.0. The
text says this ballgame happened at Ox Te Tun Nab Tunich, a toponym associated with
Calakmul. The principal figure plays ball in the Tlaloc-Venus war costume. Khris Villela
and Linda have noted that the text at his knees reads *ch'a hun Chakte,* "he has the headdress
of the Chakte." They take this as evidence that this costume is that of the Chakte.

Tikal MT 29b
9.14.15.1.19
(Oct. 22, 726):
Peter Mathews
first recognized
that this clause
records the death
of Itzam-K'awil,
or Ruler 2, of
Dos Pilas.
Perhaps Hasaw-Kan-K'awil
was gloating over the death
of an enemy.

Dos Pilas Stela 8, **9.14.15.1.19**
and **9.14.15.2.3** (Oct. 22 and Oct.
25, 726): Peter Mathews first
identified these passages as the
death and burial of Itzam-K'awil.
Using his work, Houston and
Stuart predicted that he would be
buried in the temple behind this
stela. That tomb was found by the
Vanderbilt project in one of the
finest interactions of epigraphy
and archaeology so far conducted.
The final phrase of the burial text
appears to record that twenty-eight province lords observed the burial rite.

[On the day of the death, Venus as Eveningstar was at 46.4° elongation in Sagittarius; at sunset, Saturn is
near transit point at its first stationary point.]
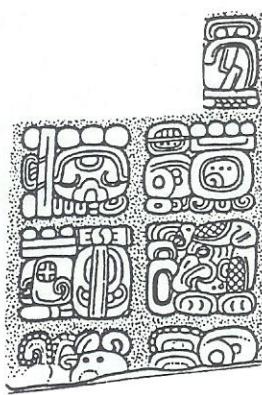
Dos Pilas St. 8 **9.14.15.5.15** (Jan. 6, 727): This passage records the accession for Ruler 3 of Dos Pilas.

Tikal MT 29b **9.14.15.6.13** (Jan. 24, 727): The text to the left is from the same bone. It records the death of a woman named Na Tzab-Kan, Na Ch'ab Ahaw. The place she is from--Ch'ab--is written with a bird wing and imix sign. This same locative appears on a looted panel from Cancuen, which was part of the Calakmul hegemony. These bones may then record a list of deaths of important people at enemy sites. [Venus as Morningstar at 8° at heliacal rising in Aquarius.]

**9.14.17.12.19** (May 19, 729) Palenque, TSlaves: This is another ch'ak event by Chak-Zutz'. The location is Kol, but as with K'inlah, we don't know where it was.

9.14.18.3.13 (Nov. 9, 729) accession of Ruler 4 of Piedras Negras
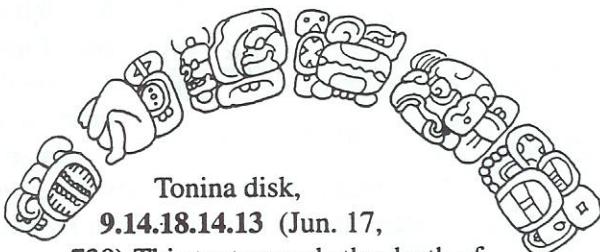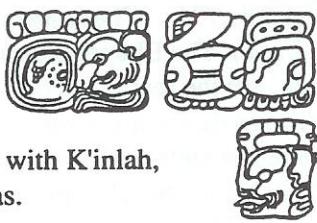
Tonina disk, **9.14.18.14.13** (Jun. 17, 730): This text records the death of K'inich Baknal-Chak, the conqueror of Palenque and overlord of Bonampak. [Venus as Morningstar was at 45.5° elongation in Taurus. This was also the summer soltice.]

Calakmul St. 51, **9.14.19.17.0** (Jul. 29, 731): This unknown event by a man named as the companion of a person called the *yuk kan ahaw*, "Joiner Snake Lord," and "He of Nabtunich," a toponym associated with the Snake site. This text supports the identification of Calakmul as the Snake site.

Yaxchilan HS 3, **9.14.19.14.18** (Jun. 17, 731): This conjuring event was enacted by a lord from Ix Witz on the summer solstice. Yaxun-Balam married a woman from Ix-Witz, so that this may be early contact that would lead to that marriage. [This is the summer solstice.]

El Peru Alt.1
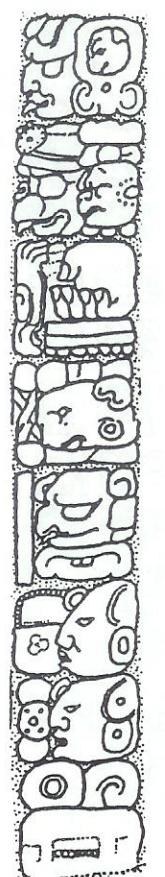
Arroyo de Piedra St. 2

Nim Li Punit St. 2

Yaxchilan HS3 **9.15.0.0.0** (Aug. 18, 731): This clause records an event on the k'atun ending (or perhaps repeats the capture that took place 12 winals later. The event is not identifiable, but the captive, Nak-Chiu, was acted upon by Itzam-Balam
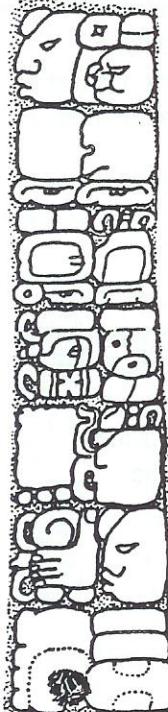
9.15.0.0.0 (Aug. 18, 731): These various passgaes record the end of the 15th k'atun. The El Peru altar records the actions of a Calakmul woman, but the text is too badly damaged to make much of it. At Arroyo de Piedra, a *yahaw*, "vassal lord of," erected a stela and scattered. A stela was also erected at Nimli Punit, were the lord includes an "Black Bat Lord" title in his name. This also appears in Butz' Tilwi's name at Quirigua. [Venus at Eveningstar at 46.3° on east end of Virgo.]

Calakmul's record of the k'atun ending is more complex. Recorded on Stela 89, the passages includes "he ended 15 k'atuns," *patlah* "he formed it," and *kuchtah, ilah,* "he carried it, he saw it." The second passage below records a stela erection fourteen days later. Three days thereafter, an event recorded with the *kuchtah* verb used to record the carrying of palanquins. It this is the meaning here, then the name of the palanquin, Sak-Nu-Balam, is very close to the palanquin on Tikal T1, Lintel 3, which also records the "downing of the flint-shield" of Jaguar-Paw of Calakmul. This text may record a replacement palanquin.
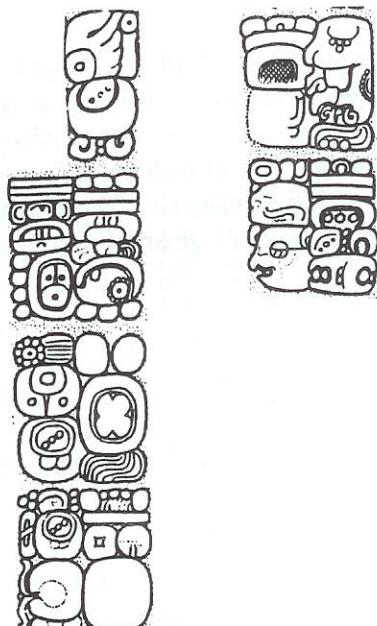
Calakmul St. 89
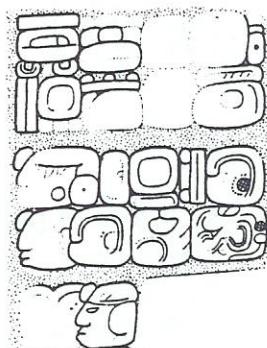
Yaxchilan HS3 **9.15.0.12.0** (April 14, 732): This passage records the capture of Nak-Chiu.
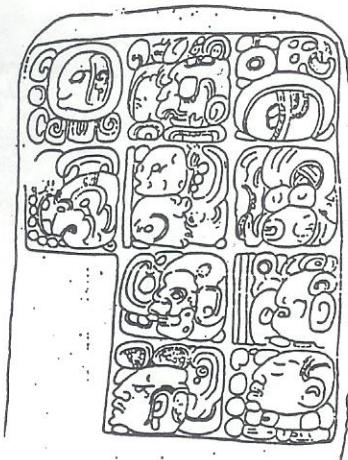
Site Q, GP 9, **9.15.1.1.7** (Sep. 8, 732): This panel records a ballgame, but the important factor, as Simon Martin first recognized, is that the same Calakmul lord that appears here as in the 9.15.10.0.1 event at Yaxchilan.
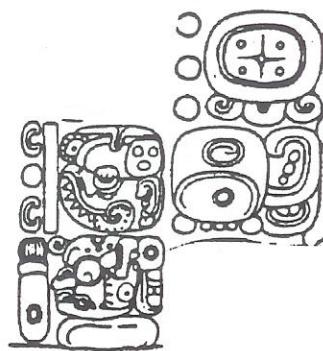
Tikal St. 21 and 5, **9.15.3.6.8** (Dec. 8, 734): These passages record the accession of Ruler B, whose name was probably Yik'in-Kan-K'awil.
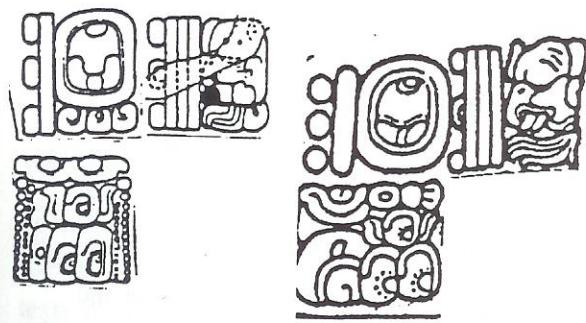
Dos Pilas and Aguateca St. 2, **9.15.4.6.4** (Nov. 29, 735): This was one of the first of these star events to be associated both with Venus heirophany (Kelley's and Closs's work) as as a war event (Riese). This as a star at Seibal event. {Venus as Eveningstar is at 7.2° elongation at its heliacal rising.
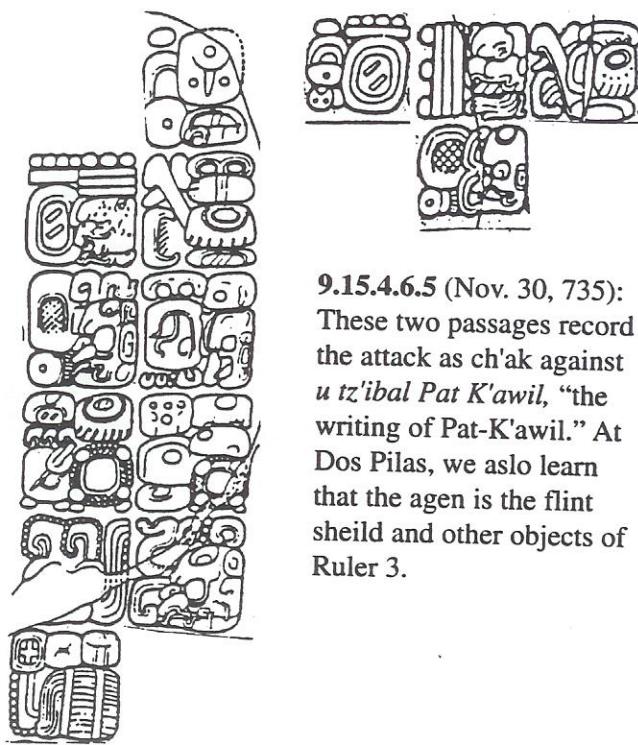
9.15.4.6.5 (Nov. 30, 735): These two passages record the attack as ch'ak against *u tz'ibal Pat K'awil,* "the writing of Pat-K'awil." At Dos Pilas, we aslo learn that the agen is the flint sheild and other objects of Ruler 3.

9.15.4.6.0 (Dec. 6, 735): Here Ich'ak-Balam, the ruler of Seibal, is decorated, probably for sacrifice in the company of Ruler 3 of Dos Pilas. He apparently did not die in this event for he continues to appear in later inscriptions at Seibal. This suggests that conquest could result in relationships of subordination and dominance as well as death in battle or sacrifice.
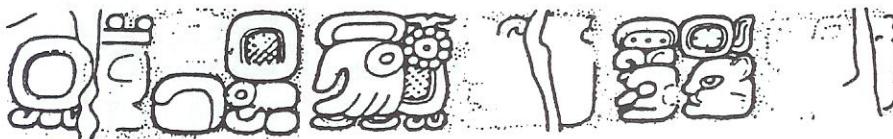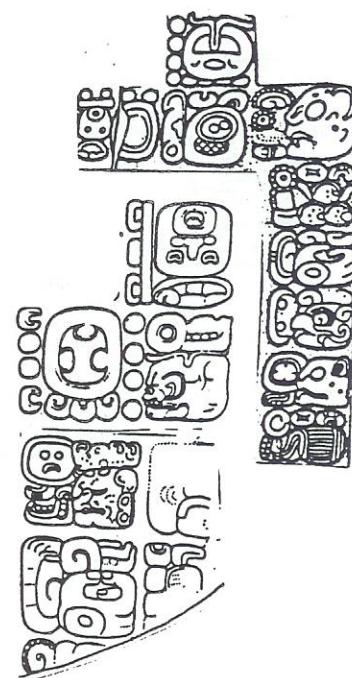
Dos Pilas Bench, Aguateca St. 1, 9.15.9.9.0 (Dec. 28, 740): These passages record events, including a scattering that happened to Ruler 3 shortly before his death.

Aguateca St. 1, **9.15.9.16.11** (May 28, 741): This passage records the death of Ruler 3 of Dos Pilas/Aguateca. He is named only as the "Guardian of K'in-Balam, Holy Lord of Mutul." In the 1990 Philadelphia meetings, Linda identified this as the name of a captured palanquin from Tikal. We suspect it was taken during the battle against Shield-Skull.
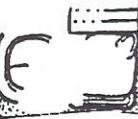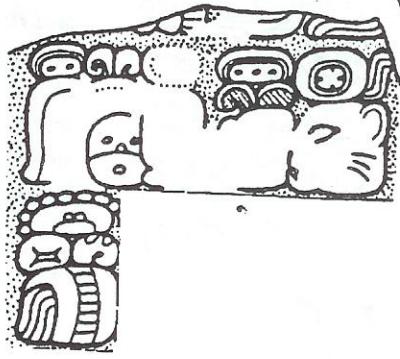
Aguateca St. 1, **9.15.9.16.15** (Jun. 1, 741): This passage records an event that took place four days after the death. Linda and Nikolai deciphered the event last summer as *kachah u saw hun husuw,* "tied up his bundle of bark paper . . .". *Hu'san* is "to down" in Chol and "to plaster lightly with daub to fill cracks and to smooth." We think this event is the preparation of the burial bundle. [Venus as Eveningstar is 8.5° before Inferior Conjunction.]
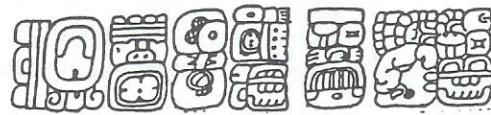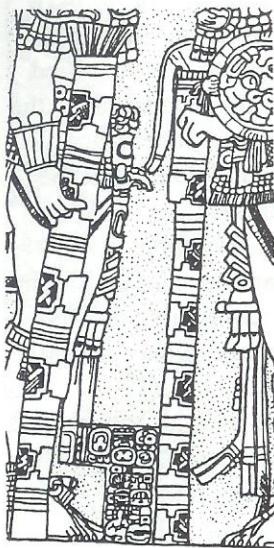
Yaxchilan St. 11, **9.15.9.17.16** (Jun. 22, 741): In this event, the aged Itzam-Balam danced with his son, Yaxun-Balam four days after the summer solstice. Itzam-Balam was about 93 years old at the time so his dance must have been restrained to say the least. The dance was with the *hasaw-kan*, a banner used in dances and in battle. Similar banners appear on the front of palanquins at Tikal and in battle scenes at Chichen Itza.
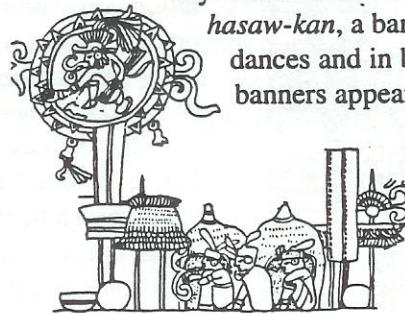
Aguateca St. 1, **9.15.9.17.17** (Jun. 23, 741): This passage records the accession (*hok'ah ti ahaw*, "he left as Ahaw") of Ruler 4 of Aguateca.
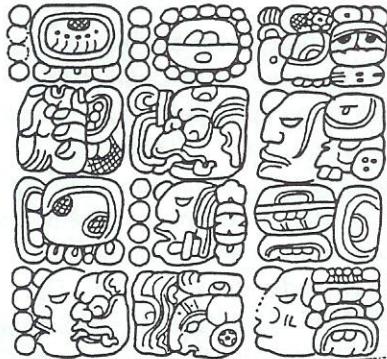
Stela 35
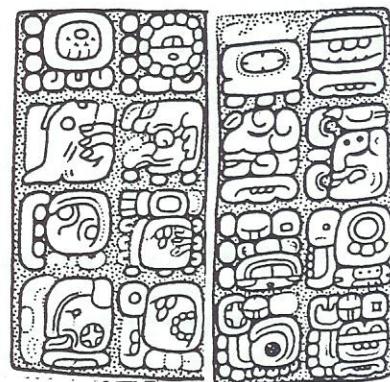
Lintel 39

Yaxchilan, St. 35 and Lintel 39; **9.15.10.0.1** (Jun 27, 741): This event is recorded on many monuments at Yaxchilan and involves many people. Following Schele and Freidel in *Forest of Kings*, we believe his conjuring rite occurred on the occasion of Yaxun-Balam's marriage to Lady Chak-Kimi. Each of the texts concerning this event either record bloodletting or conjuring. For our purposes, it is Simon Martin's work with these texts that is important. He first realized that the name following the *u kahiy* on Stela 35 is the same as the name of a Calakmul lord on Site Q glyphic panel 9. Furthermore, he also recognized that the name following the *u kahiy* expression on Lintel 39 is *Yukom*, the title that goes with the names of Calakmul kings. Schele and Freidel had recognized that Yaxun-Balam's mother was from Calakmul, but we missed entirely that two major figures from Calakmul participated in this conjuring rite. Simon's recognition opens up a new understanding of political processes during the Classic period.. Marriage brought not only a wife, but participation of men in the wife's lineage and her polity in the affairs of state.

Yaxchilan St. 12,
9.15.10.17.14 (Jun. 15, 742).
Here is the death of Itzam-
Balam.

Tikal, T4, L3 **9.15.12.2.2** (Aug. 1, 743):
Schele in the 1990 workshop, and in a
presentation at Pennsylvania, identified
the proper names of the palanquins in the
Tikal lintels. Freidel and Schele also
discuss them in *Maya Cosmos.* But the
most amazing and productive work has
been made by Simon Martin in his 1991
study of these inscriptions and by Simon
and Nikolai in their continuing collabo-
ration. Our commentary relies especially
on their recent work.

The text begins with an anchor date
(9.15.10.0.0--not included) and the date
and star-shell event. The place is Yax ha
Lak'in Wakah. Most epigraphers had
taken this to be the site to the east of
Tikal, but Simon Martin has made a very
good case that this was another lake
located to the west near the sign of El
Peru. He identified the eg in the second
part of the clause.

This second clause begins with a
verb we have long read as *bakwah* and
taken to be some derived form of *baksah,*
"to cause to be seized." Nikolai and
Simon have suggested that this is a verb
specifically used to record the capture of

palanquins. The next two glyphs are the proper names of the capture palanquin. In this case the name in-
cludes God A', and probably refers to the gods crouching on the base of the litter under the king's feet. The
text continues naming this being as the "god of" (*u k'ul*) Balam-Tzam Holy El Peru Lord. Once again Simon
first identified this eg as that of El Peru. Finally, we have *u kahiy,* Yik'in-Kan-K'awil *K'ul Mutul Ahaw Kan
K'atun Chakte,* identifying the agent as Yi'kin, the king of Tikal.
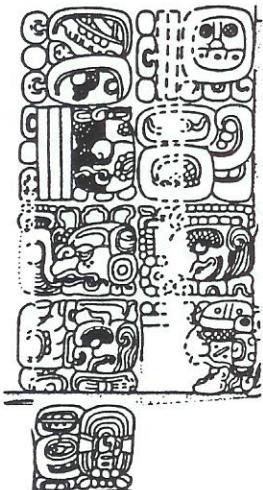
Tikal T4, L3, **9.15.12.2.3** (Aug. 2, 743): These event occurred on the following
day. The verb is damaged. We checked the original and were not able to identify
anymore than the drawing shows--*??apah.* The next glyph is a howler monkey:
with the *tz'a* sign above it, we think it read *u tz'at,* a term for "sage" or "artist."
The next glyph is *ti k'u ok.* Linda had taken the suffix to this glyph to be a *k*V
sign, but Nikolai says that it is probably *tzi* and represents a special inflectional
suffix that goes with the verb *ok.* The *tzutz* (or *hom*), "to finish" or "to end," then
the *yok,* "the base of ," and finally the name of the palanquin. This event may be
the destruction of the seat or housing of the palanquin at El Peru or some other
type of action with the base and artist of the captured palanquin. This second also
matches closing the record of the Waxaktun war on Stela 31.

Finally, the text concludes with *iwal huli Mutul,* "and then he arrived at
Tikal." Presumably, this records the return of the king to Tikal with his booty.

Tikal T4, L3, **9.15.12.11.12** (Feb. 3, 744): Lintel 3 begins with the same anchor date, linked to a date in February of the following year. This occurred fifteen days after a near total solar eclipse at Tikal. The interval hits the next full moon when a lunar eclipse might have been expected, although in this case none occurred. Nevertheless, the battle seems to have been set so that it fell on the first appropriate day after the eclipse. The event glyph consists of an *ok* head with the fingers of a hand sign Nikolai has read as *ke* replacing its lower jaw. This reading presents a problem because Tikal uses the *och* form for the verb "to enter" that is characteristic of Cholan languages. In Cholan, *ok* is the term for "foot" or "base," but it does not function as a verb. However it works here, the action concerns a *sak nik lak,* a "white flower plate." This is one of the terms used for cache plates. We take the action to be the placing of an offering in one of these plates. The actor is K'inich Yik'in-Kan-K'awil, who names himself a *k'ul way,* "holy sorcerer."
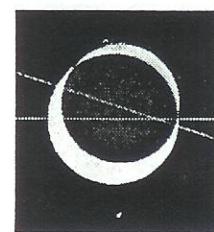
Tikal T4, L2, **9.15.12.12.13** (Feb. 4, 744): The events on the following day involve another star event. Simon Martin in his 1991 paper was the first one to identify the actors and locations in this passage. The star sign is over a cartouche with an earflare inside and a *hi* sign below. Nikolai and Simon have gathered evidence that this sign is phonetic *kaj* or "town." Simon associated the next three glyphs with Naranjo. The first, Wak Kabnal is a locative and title repeatedly used in Naranjo name. The second glyph is *tu kun* (we checked the original lintel), and the last one is the name of the supernatural known as Square-nosed Beastie. This fellow is a patron god of Naranjo who appears in numbered succession titles of its kings. The text implies that Wak Kabnal or Naranjo was the seat of the god.

The next verb is *bakwah.* By analogy with Lintel 3, Nikolai and Simon have tentatively identified the second glyph as the word for palanquin. They have not proposed a reading yet, but the idea seems a good one.

Barbara MacLeod has suggested that this verb read *kuchi,* "was carried." The name of the object that follows Nik Pilip K'in Hix Ek' Hun identified the god who stands over the king. It is followed by *u k'ul,* "the god of," Yax May Kan Chak Sak Chuwen, the name of the king at Naranjo who appears on Stela 18. Simon identified this king at Naranjo and as the captive on the base of Tikal Stela 5. Linda checked the original monument in December and confirmed his identification. The sak chuwen appears with a monkey head in place of the normal phonetic version.
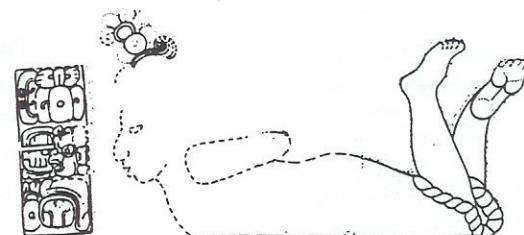
This last verb has not been deciphered. Checking the original led Nikolai and Linda to identify the first sign as a probable nine. The rest is *teh na hiya,* It may read something like *Bolontehnahi,* but we have no idea what it means. The same verb occurs on shields at Tonina. Here the actor is the Chakte or the Tikal king.
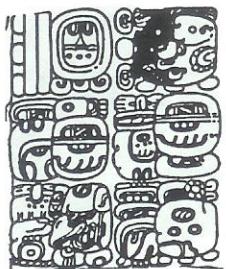
Tikal T4, L3, **9.15.15.2.3** (Jul. 13, 746): This event takes place three years after the palanquin from El Peru was captured. The verb is unknown although it may read something like *nachi* or *nayich*. In Yukatek, *nach* is "hate," while *nay* is "visions seen in dreams." The following glyph is *ti kan tzab kan tzuk*, "in the sky the snake rattle sky partition." David Stuart first deciphered the *tzab* glyph and suggested it referred to the vision serpent. We accept the reading but not the identification. Linda has checked that day to see if anything was happening near the Pleiades or Sagittarius, but she found nothing. The actor is identified as an ahaw of the flat hand holding *man* that we saw on the Early Classic Marcador. And finally we have *u natal ch'ahom*, "the first scatterer." These should be titles for Yik'in-Kan-K'awil.

The second section begins with a glyph reading *u bah an*. David Stuart was the first to suggest this reading in a letter to Federico Fahsen. We've found a lot of evidence supporting his reading. *An* is "to exist" in Yukatek, but as Nikolai noted, it is "to kindle or burn," "to hew or carve," and "to be crippled or injured" in 16th century Tzotzil. The glyph that follows is undeciphered but an identical phrase appears on Yaxchilan HS3, step 4, and the second glyph plus *winik* and *ahaw* appears in the name of a deity on a bone in the DMA. We suspect this is also part of the name of the god sculpture on the capture palanquin, because God A's name follows in the next glyph. We suspect this a recarving or renewal of the god on the captured palanquin. Finally it is called *u k'ul chakte*, "the god of the chakte." The last clause begins with kuchtah, "he was carried." The next glyph consists of *ti*, "in," and a head corresponding to the deity in the snake's mouth and *na-kan*, the glyph for Vision Serpent. This is the name of the snake arching over the palanquin. The last four glyphs name Yik'in-Kan-K'awil.

The text continues with *ak'otah*, "he danced," with ???? God A'. This seems once again to be a reference to the palanquin. And then the final passage begins with a glyph David Stuart has read as *patlah*, "was formed or made." The object formed is named in the next glyph and it happened at Yax Mutul Kan Kun, which is probably the name of the Great Plaza. The actor is named with his parentage statement. From the context we know it was Yik'in-Kan-K'awil.

Tikal T4, L2, **9.15.15.14.0** (Mar. 7, 747): This is the analogous event with the Naranjo palanquin. The verb seems to be an iconic substitute for the glyph MacLeod read as *kuch* because it shows a pair of arms holding an object up. The next glyph is Simon and Nikolai's "palanquin." The actor is again Yik'in-Kan-K'awil with the last two surviving glyphs referring perhaps to a Vision Serpent. Both this event and those from Lintel 3 seem to be depicted in the scenes.
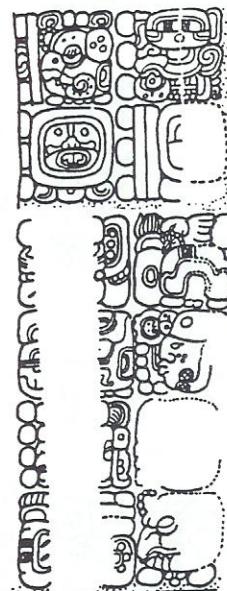
The drawings in the 1994 workbook come from the following sources

Passages from Dos Pilas Hieroglyphic Stair 4 and Bench 1 reproduced with permission of Vanderbilt University and the Petexbatun Archaeological Project. Drawings by Stephen Houston. Also see *Informe Preliminar #2, Proyecto Arqueologico Regional Petexbatun*.

Carl Beetz in Beetz, Carl P. and Linton Satterthwaite, 1981, *The Monuments and Inscriptions of Caracol, Belize*. University Museum Monography 45. Philadelphia: The University Museum.

   Stela 3; Stela 6; Stela 14; Stela 15; Stela 16

William Coe: Stela 5; Stela 7; Stela 8; Stela 16; Stela 21; Temple 4, Lintel 3

in Jones, Christopher and Linton Satterthwaite, 1982, *The Monuments and Inscriptions of Tikal: The Carved Monuments*. Tikal Report No. 33:Part A. University Museum Monograph 44.

   Annamarie Seufert: MT 35; MT 29b;

   Other Tikal project drawings: Plates from Burial 195

Lin Crocker: Rio Azul earflares

Ian Graham: Field Drawings--Bejucal Stela Stela 2; Calakmul Stela 43; Dos Pilas Stela 8; El Zapote Stela 1; Seibal Hieroglyphic Stairs; Site Q Glyphic Panel A; Site Q Glyphic Panel B; Tortuguero M6; Tres Islas Stela 1 and 2

   Naranjo Stela 1; Stela 2; Stela 18; Stela 21; Stela 22; Stela 23; Stela 24: Ian Graham and Eric Von Euw, *Corpus of Maya Hieroglyphic Inscriptions, Volume 2, Part 1, Naranjo*. Peabody Museum Press. Copyright © 1975 by the President and Fellows of Harvard College.

   Naranjo Stela 25; Stela 29; Stela 30; Stela 40; Stela 41; Altar 1; Panel 1; Hieroglyphic Stairs: Ian Graham and Eric Von Euw, *Corpus of Maya Hieroglyphic Inscriptions, Volume 2, Part 2, Naranjo, Chuhuitz, Xunantunich*. Peabody Museum Press. Copyright © 1978 by the President and Fellows of Harvard College.

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   Dos Pilas Stela 2; Aguateca Stela 1; Aguateca Stela 2: Ian Graham, *Archaeological Explorations in El Petén, Guatemala*. Middle American Research Institution, Tulane University, Publication 33

Nikolai Grube: Arroyo de Piedra Stela 1?; Calakmul Stela 9;Calakmul Stela 89; Cancuen Panel looted; Caracol Ballcourt Marker 3; Caracol Stela 13; Caracol Stela 22; Caracol Stuccoes; Chinikiha Throne; El Cayo looted lintel; El Juleque Stela 1; El Zapote Stela 5; Motul de San Jose Stela 3; Nim Li Punit Stela 15

Stephen Houston: Caracol Altar 21; Arroyo Piedra Stela 2; Dos Pilas Stela 11; Dos Pilas Stela 14; Dos Pilas Stela 15

Matthew Looper: Tortuguero Box

Peter Mathews: El Peru Stela 33 fragment; Site R Lintel 1; Tonina M134

Jeffrey Miller: El Peru Stela 33

John Montgomery : Piedras Negras Lintel 12; Piedras Negras Stela 26; Tikal Dynasty pot; Tikal Stela 17; Tikal Stela 31, rear; Tikal Temple 1, Lintel 3

Dorie Reents-Budet: Lamanai Stela 9

Berthold Riese: Pusilja Stela D; Tortuguero Earflares; Tortuguero Sarcophagus;

William Ringle: Site Q Panel 1; Site Q Panel 2 (incised) left half

Merle Robertson: Lacanja Stela 1

Linda Schele: Bonampak Altar from Str. C (drawn after M.G. Robertson rubbing); Bonampak column from photographs; Bone from Dallas Museum of Art after photograph; Cancuen Panel from photograph; Chichen Itza mural; Copan Stela 20 (field drawing); Dos Pilas HS 2 from photographs and rubbings by M.G. Robertson; Dos Pilas Panel 7 after M.G. Robertson photograph; El Peru Altar 1; El Peru Stela 34 after a photograph provided by the Cleveland Musuem of Art; Naranjo Stela 22, detail of captives names from photograph and field notes; Nim Li Punit Stela 2 phrase; Palenque House C panels; Palenque House D captives; Palenque HS; Palenque Panels from the Temple of Inscriptions;

Palenque Tablet of the Slaves from a Toniyama rubbing; Piedras Negras looted panels (Brussels and Denver); Piedras Negras Stela 26 details; Pusilja Stela M (after Morely); Site Q Canberra Panel after original photograph; Site Q Chicago Ballplayer Panel from photograph; Site Q Glyphic Panel 7 from original photograph; Site Q Lintel from an Imgrid Groth photograph; Site Q Panel 2 (incised) right half—from a Kerr photograph; Site Q Panel 4 after a photograph; Site Q Panel 6 after a photograph; Site Q Panel 7 after a photograph; Site Q Panel 8 after a photograph; Site Q Panel D from original photographs; Site Q Panel from Princeton exhibition; Site R Lintels 1 and 2 texts; Tikal Altar 5 after M.G. Robertson rubbing and field notes; Tikal Marcador; Tikal MT 38; Tikal MT 39; Tikal Stela 5 detail of captive phrase after M.G. Robertson rubbing; Tikal Stela 5 (drawn after Morley's photograph); Tikal Stela 10 (drawn after Morley and personal field notes); Tikal Stela 13 (drawn after M. G. Robertson drawing and personal field notes and photographs); Dos Pilas Stela 2; Aguateca Stela 1; Aguateca Stela 2; Tikal Stela 17 (drawn after Morley); Tikal Stela 18 (drawn after Morley and personal photographs and field notes); Tikal Stela 30 and Altar 14 after Morley and M.G. Robertson rubbing; Tikal Stela 31 sides (drawn after M.G. Robertson rubbing); Tikal Structure 5D-57; Tikal Temple 4, Lintel 2 after Maudslay; Tonina Ballcourt Panel from photograph; Tonina Disk from the Citibank book on Tonina; Turtle Shell; Uxbenka Stela 1; Waxaktun Stela 4 (drawn after Morley and personal field notes); Waxaktun Stela 5 (drawn after Morley and personal field notes); Waxaktun Structure XIII mural; Yaxchilan Stela 10 after Maler; Yaxchilan Stela 11; Yaxchilan Stela 12 after Maler; Yaxchilan Stela 19 after Maler; Yaxchilan Stela 35 from photographs; Yaxha Stelae after Morley and Maler

Andrea Stone: Site Q Glyphic Panel 11

David Stuart: Piedras Negras Lintel 2; Rio Azul tomb mural

Carolyn Tate: Yaxchilan Stela 20

Unknown Artists: Altar de Sacrificios drawings; Altun Ha Pendant; Morales Stela 5; Site Q Glyphic Panel 9

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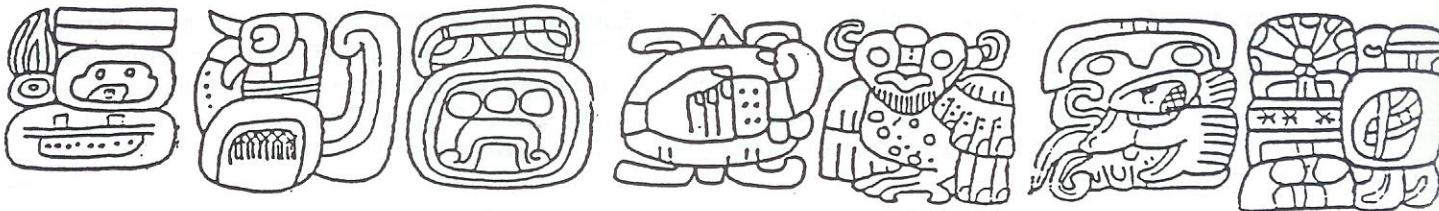
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The XIIIth Workshop Notebook (1989) deals with the texts of Copan, the XIVth Workshop Notebook (1990) with Tikal, and the XVth Workshop Notebook (1991) with Yaxchilan. In 1992, the "Origins" Workshop (XVIth) unveiled the just-discovered creation cosmology and its mapping in the night sky. The XVIIth Workshop Notebook (1993), by Dr. Schele and Dr. Peter Mathews, contains an extensive and updated account of the dynastic history of Palenque.

The earlier Notebooks are largely of historical interest, the information in them having been superseded by that in later Notebooks, but those still in print are listed here for the convenience of individuals and libraries desiring to obtain as complete a set of Notebooks as possible.

1977-1981: I-Vth Workshops: Out of print

1982: VIth Workshop: $35. 104 pages divided roughly equally between explanatory material and analyses of the Palace Tablet, the Temple XVIII jambs, and the Tablet of the 96 Glyphs, at Palenque.

1983: VIIth Workshop: $35. 127 pages divided roughly equally between explanatory material and analyses of the 3 panels in the Temple of the Inscriptions, at Palenque.

1984: VIIIth Workshop: Back in print. $35. 130 pages divided roughly equally between explanatory material and analyses of the texts from the Temples of the Cross, Sun and Foliated Cross at Palenque.

1985: IXth Workshop: $35. 108 pages divided roughly equally between explanatory material and analyses of the Palace Tablet, the Temple XVIII jambs, the Tablet of the 96 Glyphs, and the Tablet of the Slaves, at Palenque.

1986: Xth Workshop: Back in print. $35. 129 pages divided roughly equally between explanatory material and analyses of the 3 panels in the Temple of the Inscriptions, at Palenque.

1987: XIth Workshop: $35. 150 pages divided roughly equally between explanatory material and analyses of the texts from the Temples of the Cross, Sun, and Foliated Cross at Palenque.

1988: XIIth Workshop: $35. 113 pages divided roughly equally between explanatory material and analyses of the Palace Tablet, the Temple XVIII jambs, the Tablet of the Slaves, and the Tablet of the 96 Glyphs, at Palenque.

1989: XIIIth Workshop: $35. 127 pages divided roughly equally between explanatory material and the texts of Copan.

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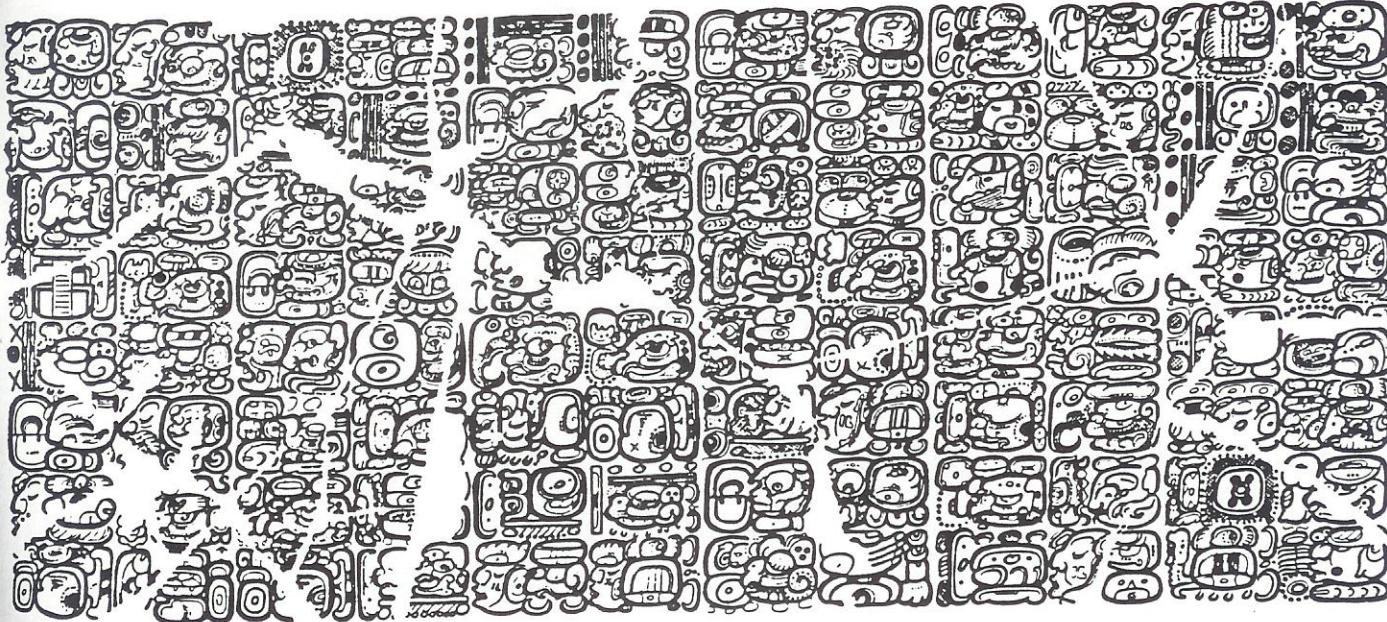
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